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THE TECHNIC OF PROSTATECTOMY AND ITS RELATION TO MORTALITY

REPORT OF ONE HUNDRED AND SIXTY-FIVE CONSECUTIVE CASES OF PERINEAL PROSTATECTOMY WITHOUT A DEATH *

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Twenty years ago, the general mortality from prostatectomy was greater than 20 per cent.; now it is almost nil. What has brought about this remarkable decrease in fatalities? It would be interesting to go into a detailed account of the close interrelationship between mortality and technic by all the routes through which the prostate is removed, but time does not permit me to do more than mention the great variety of technics which have been employed by the various suprapubic operators, and I shall have to pass over without discussing the relative advantages of the intra-urethral suprapubic enucleation, as compared with Freyer's removal *en bloc* with the anterior commissure of the more recent resections of the posterior prostatic margin, with occasional division of the anterior part of the trigon as practiced by Legueu, Thompson Walker, Judd and others. I shall have to confine myself to the changes that have come about in my own perineal technic as a result of years of experience. In my first perineal operation in 1897, I followed in the main the technic of Samuel Alexander, the removal of the prostate through median incision without regard to the urethra or ejaculatory ducts. I experienced the same difficulties which others had found in bringing down and completely enucleating the lateral and especially the middle lobe by this technic.

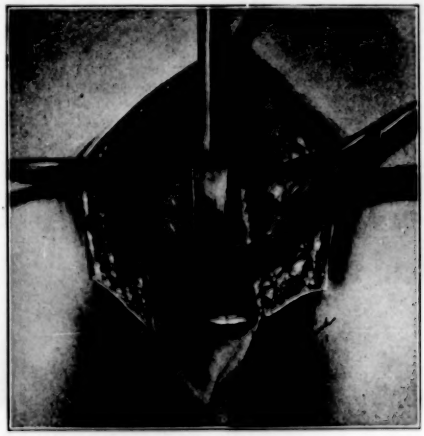

Fig. 1.—Prostate exposed through an inverted V skin incision; tractor introduced, and capsule incised on each side of median line; enucleation of left lateral lobe partially completed.

In 1903, my attention was again turned to perineal prostatectomy and, after performing several operations by the old technic, and being greatly impressed with the need of an instrument to bring down the prostate where it could be reached by the enucleating finger through the perineum, I devised a single bladed prostatic tractor by means of which the prostate was removed in one piece with great ease through the perineum. In this operation, after exposing the prostate through an inverted V perineal incision back of the triangular ligament and external sphincter, thus avoiding the dangers of incontinence and hemorrhage, which apparently followed the median perineal section of Goodfellow and Charles Mayo, an excellent exposure of the posterior surface of the prostate was secured, and by means of an inverted V incision through the capsule and prostatic substance into the urethra the entire prostate was removed in one piece. The details of this technic will be referred to later on. After several prostatectomies had been performed by this method, the double bladed prostatic tractor was devised, and it occurred to me that it would be very desirable to preserve the ejaculatory ducts and urethra intact. I then carried out the bilateral capsular incision with separate exposure and enucleation of the two lateral lobes and enucleation of the middle lobes through one of the lateral cavities,[1] as shown in Figures 1 and 2.

This technic was followed in several hundred cases, and in 1911 I presented in London a detailed study[2] of the ultimate results of 450 cases among which twelve patients were more than 80 years of age, and 164 more

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* Owing to lack of space, this article is abbreviated in THE JOURNAL by the omission of several illustrations. The complete article appears in the author's reprints.

1. Young, H. H.: Conservative Perineal Prostatectomy: A Presentation of New Instruments and Technic, J. A. M. A. 41: 999-1009 (Oct. 24) 1903.

2. Young, H. H.: Ultimate Results of Prostatectomy, Tr. Internat. A. Urol., International Congress, London, 1911.

than 70, with seventeen deaths, two in patients who were over 85 years of age, one over 80 and six between 70 and 79, and eight under 70 years of age. The cause of death was:

On day of operation, one case: myocarditis, sudden heart failure.
During first week, four cases: pulmonary edema, one; cardiac and cerebral thrombosis, one; cerebral hemorrhage, one; bronchopneumonia, one.
During second week, four cases: pyonephrosis, two; pulmonary thrombosis, one; secondary hemorrhage, one.
During third week, one case: pneumonia, uremia.
During fourth week, three cases: uremia, chronic nephritis, two; pneumonia, patient aged 87.
During fifth week, one case: pneumonia and uremia, man, aged 81.
During seventh week, two cases: hemorrhage from nose and throat, one; patient, aged 88; pneumonia, endocarditis, one.
During ninth week, one case: myocarditis, hypertrophy, dilatation and thrombus of heart.

Fig. 2.—After removal of both lateral lobes, the median is drawn down with tractor and pushed into left lateral cavity with index finger in the opposite cavity previous to enucleation of middle lobe.

Necropsies were obtained in nine cases, and eight of these showed severe renal lesions: chronic nephritis, five; pyonephrosis, two; pyelonephritis, one.

Three cases not coming to necropsy gave symptomatic evidence of severe renal lesions—pyonephrosis and nephritis.

Six cases showed at necropsy severe cardiac lesions, and in four cases these were the cause of death: myocarditis, two; endocarditis, one; cardiac thrombosis, one.

Hemorrhages were the cause of death in three cases: cerebral, one; nasal, one; vesical, one.

Pulmonary infections were the cause of death in seven cases: pneumonia, two; bronchopneumonia, one; hypostatic congestion, two; acute pulmonary edema, one; pulmonary thrombosis, one.

This series of cases brought home to us the great danger of renal diseases in patients on whom prostatectomy is contemplated. In our very earliest cases, we had had patients brought in in uremic coma; and, under continuous drainage, assisted by the use of large quantities of water by mouth, beneath the skin, intravenously and by rectum, had seen these patients throw off the uremia and subsequently undergo prostatectomy without difficulty. I proposed a definite plan of preparatory treatment, but no definite means were at hand to determine when these patients were safe for operation because the ordinary urinary tests and even studies of the blood at that time failed to show the functional

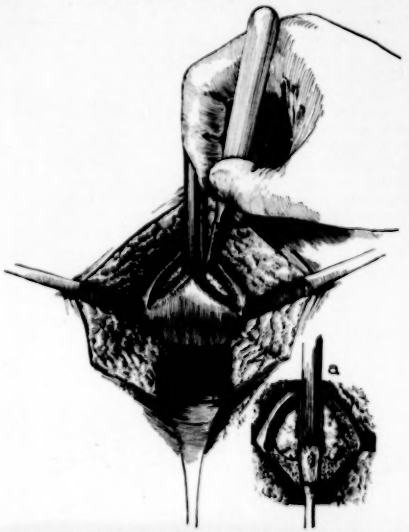

Fig. 4.—Division of the left lateral wall of the urethra with scalpel. This is carried out also on the right side, thus making it possible to draw down the triangular flap with forceps and expose the floor of the urethra and ejaculatory ducts, as shown in inset, *a*, in which the urethra is divided on each side, the fold carried downward, and the lateral adenomas exposed.

Fig. 5.—The urethra, covering the median portion of the prostate, is here divided transversely with scalpel previous to enucleation.

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value of the kidneys. About this time Abel and Rowntree showed the remarkable selective action of the kidney in the elimination of phenolsulphonephthalein, and Rowntree and Geraghty [3] worked out the clinical possibilities and limitations of the test in the urologic department of the Johns Hopkins Hospital, and thus furnished an accurate means of determining when these serious cases are fit for operation. Since then there has been a steady decline in my mortality rate, although operations have been performed in more desperate cases, and more patients with badly impaired kidneys have been operated on.

A recent study of 650 cases in which the phenolsulphonephthalein test was carried out showed: 145 in which on admission the phenolsulphonephthalein test was less than 40 per cent. in the first two hours. Among these there were eight which showed only a trace of phenolsulphonephthalein in two hours; four in which it was less than 9 per cent.; twelve in which the phenolsulphonephthalein was between 10 and 14

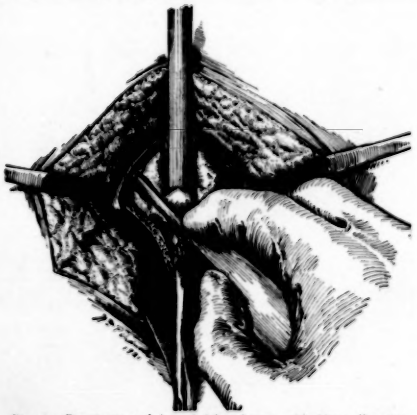

Fig. 6.—Enucleation of lateral lobes begun with blunt dissector.

per cent., and eighty-one in which it was between 30 and 39 per cent. Among those cases in which the phenolsulphonephthalein test was less than 15 per cent., the average length of preliminary treatment necessary to bring the phenolsulphonephthalein test for two hours above 30 per cent. was on the average thirty days, and among these twenty-four desperate cases there was not a single death as a result of careful preparatory drainage and use of large quantities of water.

The London report of 450 cases referred to above showed not only a low mortality, but also an absence of incontinence and very infrequent injury of the rectum, and demonstrated the fact that the perineal operation, if carefully and conservatively performed, would not be followed by these bugbears, concerning which so much had been written in opposition to the perineal route. But there were occasional cases in which the operation had been incomplete, owing to the fact that small lobules sometimes escaped the enucleating finger and remained to produce subsequently a certain amount of obstruction to free urination. Another disadvantage was that certain operators complained of the technical difficulties of removing separately the three different lobes, whereas by means of the suprapubic route the entire prostate could be

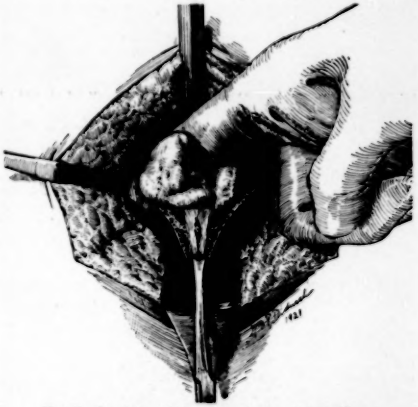

Fig. 7.—Completion of lateral enucleation with the finger

torn out by either the interurethral or the perilobular technic in one piece, and with greater speed and without danger of leaving behind any hypertrophied tissue.

These reflections caused me to study again the technical possibilities of removal of the prostate in one

Fig. 8.—Condition left after removal of the lateral lobes in one piece: floor of the urethra and ejaculatory ducts preserved, vesical mucosa partly retracted, vesical sphincter exposed, lateral cavities emptied; unhypertrophied prostatic tissue beneath the capsule.

piece through the perineum, and I wish here to set forth in detail the methods that have been employed. First of all, I reverted to the inverted V capsular

3. Rowntree, L. G., and Geraghty, T. J.: An experimental and Clinical Study of the Functional Activity of the Kidneys by Means of Phenolsulphonephthalein, J. Pharmacol. & Exper. Therap. 2:379, 1910.

technic which I had employed in my first operation with the prostatic tractor in 1903, as shown in Figure 3. Here, after the tractor had been introduced into the bladder, an inverted V incision was made

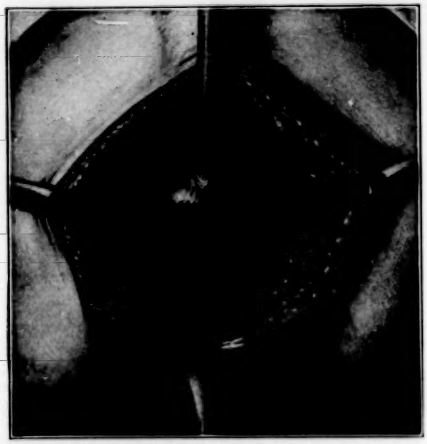

Fig. 9.—Single lateral oblique incision, which proved to be too far from midline, and which made the removal of the right lateral lobe very difficult.

through the capsule into the urethra, and a triangular flap of the prostatic capsule and urethra turned back (Fig. 4), thus exposing the floor of the urethra, verumontanum and the ejaculatory ducts (Fig. 4 *a*). The urethra was split on each side as far back as the mid-

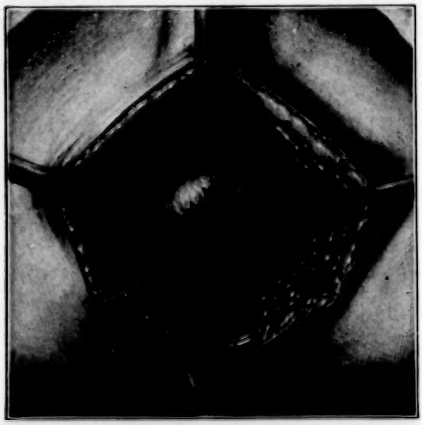

Fig. 10.—Latest technic with single lateral capsular incision almost parallel to the urethra and just external to the verumontanum and ducts. This incision opens on the urethra along the left lateral wall.

dle lobe, and there divided transversely in front of the middle lobe (Fig. 5). By means of blunt dissection, the lateral and median lobes were removed in one piece with great ease (Figs. 6, 7 and 8), with little or no removal of mucous membrane and the absolute protection of the verumontanum and ejaculatory ducts. The wound was closed as usual with drainage of the bladder through a single large perineal tube, and the lateral cavities were packed with gauze to arrest hemorrhage.

This technic was followed for a great many months, and then a careful study of cases was made and showed conclusively that the wound healing by this technic was not nearly so rapid or satisfactory as by the previous bicapsular incisions, and to our surprise a few cases of stricture of the anterior part of the prostatic urethra occurred, something that had almost never been seen by the previous technic. Investigation seemed to show that the triangular flap was probably turned backward and left a large area to be replaced by tissue along the floor of the urethra and thus led to slow healing and cicatricial contraction sufficient to produce stricture.

I then tried enucleating the hypertrophy through a single oblique capsular incision, as shown in Figure 9.

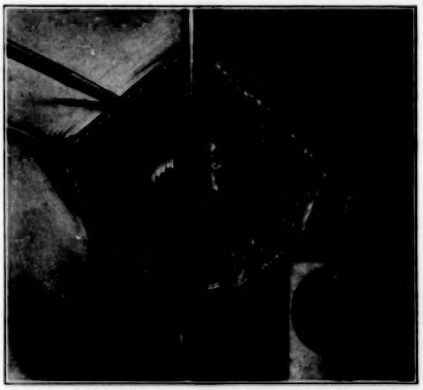

Fig. 11.—The prostatic capsule has been opened by oblique lateral incision, which extends into the urethra and divides the left lateral wall of the urethra to the middle lobe. Enucleation of the left lateral lobe begun. Mucous membrane covering the right lateral and median lobes divided, as shown in subsequent drawings. Inset, *a*, cross-section of prostate, with knife making incision in the mucous membrane covering the right lateral lobe. *R. L.*, right lateral lobe; *L. L.*, left lateral lobe; *T*, prostatic tractor.

As seen here, after the prostatic tractor had been introduced through the median urethrotomy wound and the prostate had been exposed, an oblique incision was made in the posterior surface near the left lateral margin and from there into the urethra, which was thus widely opened on the left side, exposing the floor and ejaculatory ducts. By division of the urethra longitudinally on the side and in front of the median lobe, the adenomatous prostate was then removed without difficulty through this single lateral incision. Whereas the enucleation of the left lateral lobe was easy, the right lateral lobe was more difficult to reach in this method, and after performing a number of operations by this technic I finally decided to try a single capsular incision which would open the urethra and parallel the ejaculatory ducts on one side, but sufficiently distant to avoid injury to them. This incision is shown in Figure 10. As seen here, the capsule

and urethra are opened by an incision beginning along the left side of the tractor where it enters the prostatic urethra, and from that point continues backward and slightly outward near the posterior limit of the prostate. The whole prostatic urethra is thus widely opened, and investigation will show the verumontanum well preserved along the floor of the urethra to the right (Fig. 11). Incision is then made along the mucous membrane covering the inner surface of the right lateral lobe (Fig. 11 *a*), and enucleation of the lateral lobes carried out as shown in Figures 12 and 13, by means of the blunt dissector and the index finger.

The mucous membrane covering the middle lobe is then divided transversely, the ejaculatory ducts and verumontanum being pushed backward and guarded by the index finger, which is inscrted along the floor of the urethra until it reaches the middle lobe (Fig. 14), the incision then being made with the scalpel on the finger nail through the mucous membrane covering the median portion of the prostate, after which

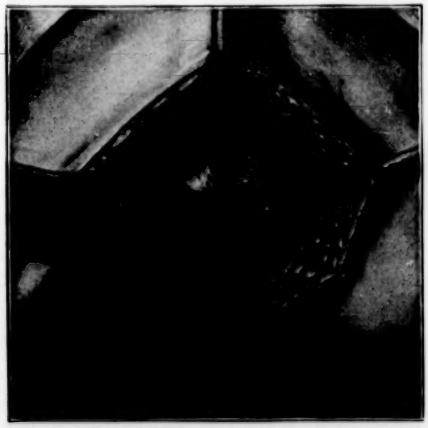

Fig. 12.—Floor of the urethra pulled aside with forceps to show the verumontanum preparatory to making longitudinal incision along the inner surface of the right lateral lobe.

the finger is pushed backward beneath the middle lobe, thus freeing it from the proximity of the ejaculatory ducts posteriorly (Fig. 15).

Enucleation of the lateral and median lobes is then completed, first on one side and then on the other, until the entire adenomatous prostate is drawn forward and gradually separated from its attachment to the vesical and urethral mucous membrane, which usually strips away without difficulty, leaving the interior surfaces of the lateral and median portions of the prostate completely free from mucous membrane. In some cases a subtrigonal lobule is present, and on this account it is often advisable to remove the tractor and insert the index finger of the left hand through the sphincter into the bladder (Fig. 16) and remove the deep portion of the middle lobe on this finger, a curet being used (Fig. 17), if necessary, to free the deep portions of the lobe from the surrounding structures and, if a subtrigonal lobe is present, to draw this up into the wound in conjunction with the middle and lateral lobes, as shown in Figure 18. By this technic an extremely complete and satisfactory enucleation of the lateral, median and subtrigonal lobules can be carried out without difficulty and under

Fig. 13.—Enucleation of lateral lobes, which was started with scalpel, is completed with finger, the tractor being carried downward.

Fig. 14.—With tractor held vertically, beak directed downward, the lateral lobes having been freed, the mucous membrane in front of the middle lobe is being divided transversely with scalpel. Ejaculatory ducts covered by index finger, which pushes them backward.

visual direction as the deep portions are exposed. Figures 19 and 20 are accurate drawings of specimens removed by this technic.

Not infrequently, a bleeding artery is exposed on each side of the vesical neck adjacent to the middle lobe where it can be clamped and ligated, thus materially reducing the hemorrhage and the necessity of packing. (These areas are probably caught in the sutures which are placed by some suprapubic prostatectomists after enucleation of the prostate.) An investigation will then show that the sphincter is usually intact, though possibly dilated, and a cylinder of mucous membrane extending from the vesical neck into the prostatic cavity. The floor of the urethra and ejaculatory ducts are preserved as completely as by the old technic, and the roof of the urethra is generally entirely intact. The operation is completed by inserting a large tube into the bladder, packing the lateral cavities with gauze, and closing the skin externally on one side, as shown in Figure 21.

Fig. 15.—The middle lobe attached to the two lateral lobes already freed is being separated from the sphincter and vesical mucosa, and enucleated from behind forward.

Fig. 16.—The tractor has been removed and the index finger of the left hand introduced through the vesical orifice into the bladder to investigate the median portion. The subtrigonal lobule has been discovered, and is being separated from the sphincter by the blunt tractor.

The technic described above can be varied in many ways. The anterior commissure and what gland tissue it contains (sometimes a hypertrophied lobule, occasionally a large anterior lobe) can be removed in one piece with the lateral and median portions of the prostate, thus approximating the complete removal *en bloc* practiced by Freyer in the suprapubic route, as shown in Figure 22 *A. C.*, anterior commissure intact. Figures 23, 24, 25 and 26 show specimens removed through the perineum by this technic. As seen here, the anterior commissure is well preserved. The only objection to this method is that a little more mucous membrane is removed with the specimen; but this is relatively unimportant, and it is not infrequently easier to remove the entire prostate this way than if approached intra-urethrally. Another method is to break through the urethral mucous membrane near the anterior surface of the lateral lobes on each side, as is done in the intra-urethral suprapubic technic, and to remove frankly the mucous membrane covering the entire surface of the lateral lobes, which are first separated anteriorly and then laterally and then posteriorly in enucleating them along with the middle lobe in one piece. Figure 27 shows a specimen removed in this way.

Fig. 17.—A sagittal section indicating the removal of the subtrigonal lobule on the index finger in bladder by means of curet.

The principal advantage of this single capsular incision is that a more thorough removal of the deep portion of the lateral and median hypertrophied lobes may be accomplished, and all in one piece, thus avoiding the chance of leaving intravesical lobules of gland tissue behind to cause future trouble. The ejacula-

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tory ducts and sphincter are preserved with equal care. The urethral mucosa is probably more lacerated and sometimes partly removed, but this is apparently of little importance, as the normal prostate which remains rapidly collapses after removal of the lateral hypertrophied lobes, and a year later the prostate is generally of the size and consistency of a normal prostate. As a matter of fact, the amount of tissue remaining is practically that of a normal prostate, the lateral adenomas having only pushed outward and backward the normal gland tissue in their growth, and thus the gland is subsequently restored to normal after contraction of the cavities left by removal of the lateral and median lobes. Indeed, the operation should not be called prostatectomy but prostatic adenectomy, the term prostatectomy being reserved for the radical

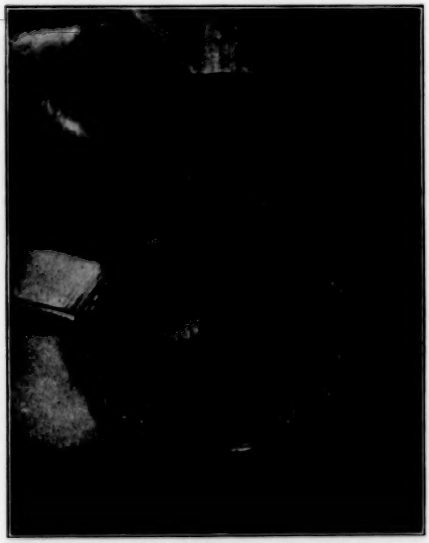

Fig. 18.—Condition present after removal of lateral, median and subtrigonal lobule. Normal subcapsular tissue remains. Ejaculatory ducts preserved, roof and floor of the urethra intact, cavity on each side and in region of middle lobe. Vesical sphincter intact.

operation for cancer of the prostate, in which the whole prostate is removed.

In some fibrous and very adherent cases the old bilateral capsular incision and technic are the most satisfactory; and, although it is a great pleasure to remove a beautiful specimen of the adenomatous prostate in one piece, there are some instances in which the immediate result is more conservative by the old technic than with the new. But these newer methods are interesting, as showing that the entire adenomatous prostate can be removed in one piece through the perineum without injury of the internal sphincter or the ejaculatory ducts, and the ultimate result is far more conservative than that of suprapubic prostatectomy, in which much of the urethral mucosa is removed, and the internal sphincter is greatly dilated and often lacerated or even functionally destroyed by the removal of a large prostatic mass through its lumen, as shown by Hyman [4] and Watson.[5]

MORTALITY

During the last three years, the more recent technic described above has been generally followed in my personal cases. Since my return from France, I have had

Fig. 19.—Specimen removed by foregoing technic, consisting of very large left lateral (*L. L.*), moderate right lateral (*R. L.*), and very long median lobe (*M. L.*), which projects far into the bladder. No mucous membrane removed.

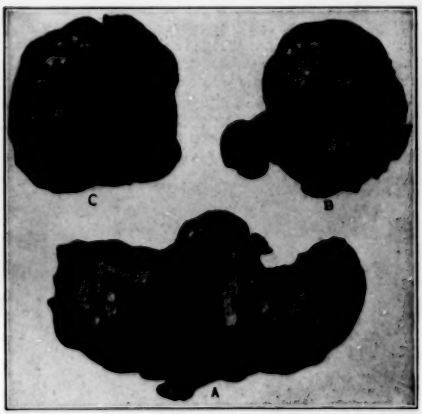

Fig. 20.—*A*, anterior view of lateral and median lobes removed in one piece; *B*, side view of right and median lobes of specimen; note the constriction of median lobe by sphincter and small subtrigonal posteriorly projecting lobule; *C*, vesical aspect of prostrate, showing the small intravesical median and very large extravesical lateral lobes; if this had been removed suprapublically, the sphincter would have surely been destroyed.

from Feb. 11, 1919, to date (a period of three years) 166 consecutive perineal prostatectomies without a

4. Hyman, A.: The Normal Bladder and Its Sphincters, and the Changes Following Suprapubic Prostatectomy, Ann. Surg. **59**:544, 1914.
5. Watson, E. M.: A Study of the Vesical Orifice Following Perineal Prostatectomy, J. Urol. **1**:543 (Dec.) 1917.

death. Among these patients there were four more than 80 years of age, and forty-nine more than 70, and about 30 per cent. had kidneys so badly impaired as to require several weeks of preliminary catheter drainage and

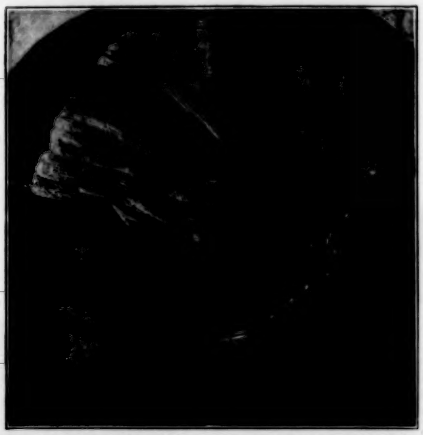

Fig. 21.—Large tube has been inserted into bladder, a small tube into the cavity for the insertion of oil to facilitate removal of gauze which has been introduced into the lateral cavities to arrest hemorrhage.

treatment with large amounts of water to restore the renal function sufficiently before operation could be safely undertaken. In only two cases was it necessary to supply suprapubic drainage in the preparatory treatment. All other cases were handled by either intermittent or continuous catheter drainage, great care being

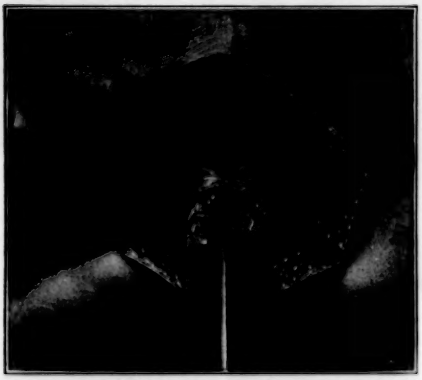

Fig. 22.—Enucleation of prostrate en bloc, with anterior commissure intact; *A. C.*, anterior commissure.

taken to avoid urethral suppuration, and careful study of the renal function with the phenolsulphonephthalein test and blood chemistry if serious renal disease was indicated. The preparatory methods which have been used have been indicated in a previous paper,[6] and need not be repeated here.

CONCLUSION

The principal object of this paper has been to show that:

1. By means of the perineal route, just as radical and satisfactory removal of the entire adenomatous prostate in one piece can be accomplished through the perineum as by the suprapubic route, with, however, complete conservation of important anatomic structures (vesical sphincter, ejaculatory ducts, etc.) as outlined above.

2. By means of the great natural advantages of the lower operation—ability to do an open operation through visual inspection, to arrest hemorrhage and to apply sufficient packing for complete hemostasis, and with dependent drainage, an avoidance of sepsis, and the inconvenience of distention of the bowels which so

Fig. 24.—Anterior view of very large prostate removed en bloc with anterior commissure.

frequently follow suprapubic operation—a remarkably low mortality can be secured and prostatectomy brought within the ranks of those modern major surgical procedures which are practically free from danger.

6. Young, H. H., and Frontz, W. A.: Preliminary Treatment for Prostatectomy in Unfavorable Cases, J. A. M. A. 68:526 (Feb. 17) 1917.

Survey of Schoolchildren and Adults.—The Eye Sight Conservation Council of America, New York City, announces that statistics covering many years show that nine out of every ten persons over 21 years usually have imperfect sight. At 31, the proportion is larger. Above 40, it is almost impossible to find a man or woman with perfect sight. A survey of several thousand schoolchildren showed that 66 per cent. of them had defective vision of such a degree as to warrant the wearing of glasses. An examination of more than 10,000 employees in factories and commercial houses showed that 53 per cent. had uncorrected faulty vision, and 13 per cent. had defects which were corrected, making a total of 66 per cent. with defective eyes.

KERATODERMIA BLENNORRHAGICA

EDWARD C. GAGER, M.D.
ST. PAUL

This disease, first described by Vidal in 1893, is comparatively rare. Chauffard [1] described the condition in 1910 and gave references to all cases reported up to that time. In 1912, Simpson [2] reported a case in detail, and reviewed the literature. Since that time there have been reported several cases of localized gonorrheal keratoses, among them four cases [3] in 1918.

REPORT OF CASE

A man, aged 41, single, a glazier, referred by Dr. O. I. Sohlberg, July 23, 1921, had his first attack of gonorrhea at the age of 20. This cleared up readily. At 27 he had urethral stricture with acute retention. Treatment of this

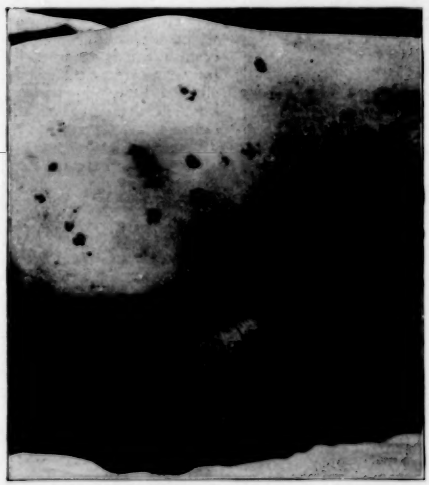

Fig. 1.—Character and grouping of lesions on trunk, some still covered with a white scale and others showing the red base where the scale has been brushed off.

condition gave him permanent relief, and he had had no difficulty of urination since that time. The patient stated that, since the first attack, he had had gonorrhea six or seven times. The present attack began with a purulent urethral discharge, July 2. July 5, he noticed a balanitis; July 9, a papulopustular eruption appeared on the arms and legs, together with pain, tenderness and swelling of the right wrist, both knees and ankles.

The patient was well developed but poorly nourished. The teeth were in poor condition. The heart was slightly enlarged to the left; the pulse was regular, 110 a minute; there were no murmurs over the aortic area. There was a soft, diastolic murmur at the apex, not well transmitted, but heard indistinctly over the vessels of the neck. The blood vessels were arteriosclerotic. There were water hammer pulse and capillary pulse. The liver and the spleen were not palpable. The knee reflexes were slightly hyperactive. The right wrist was red and swollen, and there was an arthritis of both knees and ankles. There was a general adenopathy. The glans penis and the prepuce were reddened and hyperkeratotic. The

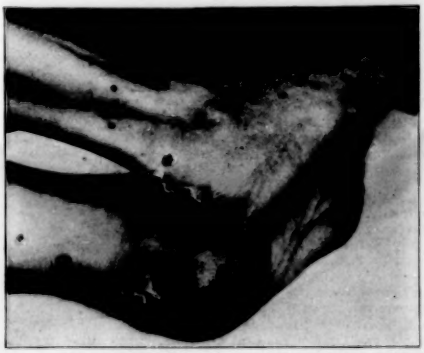

Fig. 2.—Grouping of confluent lesions on the heels.

serum Wassermann reaction was negative on two examinations. The temperature on admission was 101 F., and ranged to a maximum of 103 during the course of the illness. The

Fig. 3.—Conical shape of individual lesions may be noted; also swelling of knee and ankle.

pulse was rapid throughout; for some weeks it was 120 a minute.

The lesions, which we saw in their early state, began as vesicles which rapidly became pustules. Smears from the

1. Chauffard, in the Ikonographia Dermatologica, 1910.
2. Simpson, F. E.: Kératodermie Blennorrhagique, J. A. M. A. 59: 607 (Aug. 24) 1912.
3. Brown, W. H., and Davidson, A. M.: J. Cutan. Dis. 36: 225 (April) 1918. Lundie, C.: Brit. J. Surg. 5: 389 (Jan.) 1918.

pustules on the skin as well as from the urethra contained extracellular, gram-negative diplococci; pus cells were very numerous.

The eruption was widely distributed, bilateral and tended to be symmetrical. The distribution was grouped, although there were scattered lesions on all parts of the body. There were groups, several confluent, on the buttocks, thighs, legs, feet, arms and forearms. The lesions in the beginning were vesicles or pustules on an erythematous base. After some of the older lesions had dried up and were brushed off, there was left a smooth, pink surface underneath. The smallest lesions measured from 3 to 4 mm. (about ⅛ inch) in diameter; the larger ones were from 2 to 4 cm. (¾ inch to 1½ inches). The base was raised and covered with a keratin scale.

Some of the larger lesions presented almost a mussel shell appearance. About the inner surface of the ankles and on the soles there were numerous convex pustules with hard and thickened caps; these gradually and slowly became enormously thickened and keratinized.

The discrete lesions were convex and cornified, and were conical, enlarging gradually to the base. On the soles, especially over the ball of the foot, they became confluent, and there was an enormous thickening of the epidermis. The appearance of these lesions was very striking, and resembled no other eruption.

The course of the eruption was prolonged. After one month the lesions were crusted, cornified and yellowish; at the end of two months most of the lesions on the trunk and arms were completely keratinized and brushed or scraped off, leaving pink, smooth skin underneath.

Lesions on the soles led to an entire desquamation of the enormously thickened skin. At the end of three months the eruption had healed entirely, but it was six months before the arthritis had cleared up, and the patient had a prolonged recovery and convalescence.

The diagnosis of the condition was: gonorrheal urethritis; balanitis; arthritis; myocarditis; keratodermia blennorrhagica.

334 Lowry Building.

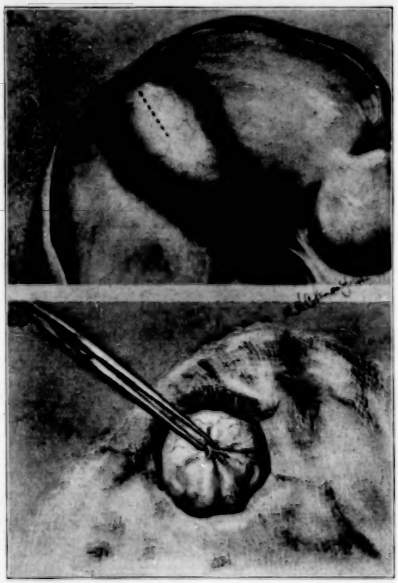

Fig. 1.—*a*, site for incision in gallbladder in the region with least blood supply; *b*, gauze applied to prevent contact of bile with adjacent peritoneum.

Respiratory Symptoms Due to Latent Syphilis.—Syphilis may ape any disease. Prior to the discovery of the tubercle bacillus, pulmonary syphilis was believed to be common. Following Koch's discovery, the reporting of cases of syphilis of the respiratory tract became quite rare. The experience at the Henry Phipps Institute has been that symptoms and physical signs due to latent syphilis cannot be distinguished in the beginning from those due to pulmonary tuberculosis. Syphilis is to be suspected as the cause of the trouble: (1) if the sputum is persistently negative for tubercle bacilli; (2) if stigmas of syphilis are found (history of miscarriages, nocturnal headaches, tenderness over the sternum, enlargement of inner end of clavicle, atrophy and induration of testicle, etc.); (3) if the Wassermann reaction is strongly positive; (4) if there is an amelioration of the symptom following antisyphilitic treatment.—*Bull. Henry Phipps Institute.*

"IDEAL CHOLECYSTOTOMY"

A VALUABLE PROCEDURE IN CERTAIN CASES OF CHOLELITHIASIS *

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There are cases of gallbladder disease in which diagnosis is simple and operative treatment generally successful. When a history of recurring attacks of colic, often associated with fever and jaundice, is obtainable; when the physical examination reveals a tumor or localized tenderness in the region of the gallbladder, and when roentgenologic study gives no indication of disease of the stomach, duodenum or appendix, but suggests involvement of the gallbladder, we are reasonably sure of the ground on which we stand. In these cases, doubt is removed by the very evident pathologic changes revealed on opening the abdomen. The institution of appropriate surgical measures will practically always cure these patients, or, at least, afford a considerable degree of relief.

As C. H. Mayo [1] has recently pointed out, however, such cases as these represent the terminal stages of gallbladder disease. This author stresses the importance of earlier diagnosis and operative interference, so that our patients may be saved from the crippling local lesions as well as the danger of involvement of other organs. This advice is sound, but the attempt to follow it introduces actual difficulties for the diagnostician, and potential dangers for the patient.

The early detection of these cases is possible from the clinical history. Though physical and roentgen-ray examinations are negative, if the patient states that he has suffered from dyspepsia, when he complains of epigastric fulness after eating, associated with frequent eructations of gas, there is strong likelihood of the existence of a cholecystitis, provided careful examination fails to reveal the presence of disease elsewhere.

Believing that the patient is suffering from cholecystitis, surgeons recommend either cholecystostomy for drainage, or else the removal of the gallbladder. The attempt has been made elsewhere to point out the evil consequences [2] which are prone to follow the

* Read before the Southern Surgical Association, Pinehurst, N. C., Dec. 15, 1921.

1. Mayo, C. H.: Cholecystostomy versus Cholecystectomy, Collected Papers of the Mayo Clinic **7**: 256, 1915.
2. Willis, A. M.: Some Problems in Connection with the Surgery of the Biliary Tract, Ann. Surg. **75**: 196 (Feb.) 1922.

former of these procedures in the cases of slight disease of the gallbladder, the resulting infection and adhesions rendering the patient's condition worse than it was before operation. On the other hand, are we not becoming a little overenthusiastic in regard to removal of the gallbladder? The results which have followed cholecystectomy with omission of drainage are certainly good, but it would seem wiser to reserve this operation for cases in which we are reasonably certain that the organ is diseased. If we are to believe this is the case in spite of the fact that both inspection and palpation of the inner and outer walls are negative, the gallbladder occupies a unique position, for no other abdominal organ may be diseased to such an extent as to render its removal necessary without giving evidence of such involvement.

Earlier in my experience, simple cholecystitis was rather infrequently recognized. In a series of 549 cases in which operation was performed prior to 1918 because of supposed gallbladder disease, 86 per cent. of the patients showed the presence of calculi, while only 14 per cent. were instances of noncalculous cholecystitis. Impressed by the fact that I had, apparently, been derelict in my duty toward the patients, I made the attempt to increase the proportion of cases in which the diagnosis was made in the precalculous stage. This attempt has been so far successful that in a series of a hundred cases in which operation was performed during the last two years, stones were absent in 25 per cent. The sense of gratification which might be expected to follow this apparent increase in diagnostic skill is lessened, however, by the results of microscopic examination of the gallbladders, or sections, removed at operation. Ten of these gallbladders, or 40 per cent. of those which did not contain stones but were operated on because they were considered diseased, showed no histologic changes that could be considered pathologic. In other words, in the eagerness to forestall the streptococci, it would appear that a considerable number of normal gallbladders have been operated on, largely because the former owners gave a history of definite digestive disturbances, accompanied by epigastric fulness and gaseous eructations.

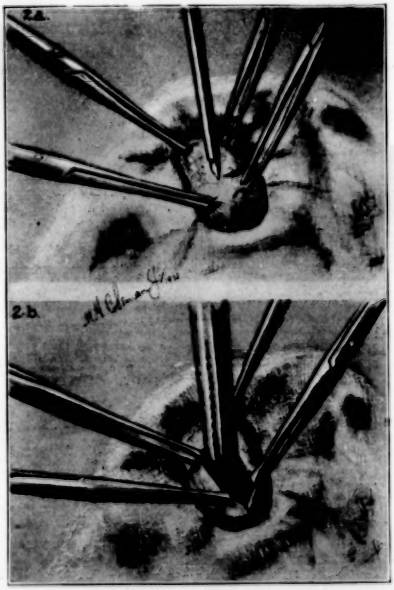

Fig. 2.—Introduction of (a) trocar-aspirator: (b) irrigator-aspirator.

In a recent paper by Jacobson,[3] it is stated that of 365 patients with cholecystitis operated on at the Peter Brent Brigham Hospital, in only fifty instances (13.7 per cent.) were stones absent from the gallbladder or ducts. Of these fifty patients, sixteen were found to have normal gallbladders when the organ was examined histologically, so that in this institution approximately one patient out of every three subjected to cholecystectomy for "simple cholecystitis" parted with a normal gallbladder, the failure of patients to obtain relief following the operation confirming the belief that the diagnosis of cholecystitis was a faulty one.

In increasing the proportion of cases of noncalculous cholecystitis in my series as compared to Jacobson's, the proportion of incorrect diagnoses has been raised from 32 to 40 per cent. When we encounter reports of series in which almost 40 per cent.[4] of the patients subjected to cholecystectomy were supposed to be suffering from noncalculous cholecystitis, one cannot forbear speculating as to how many normal gallbladders were sacrificed.

In addition to these borderline cases of cholecystitis, there are others in which we should hesitate to decide on the employment of radical measures. It is with some trepidation that I acknowledge a faith in the existence of the "silent" gallstone.[5] Possibly because of an increase in the amount of cholesterin or a decrease in the solvent power of the bile for this substance, it would seem conceivable, at least, that sterile calculi could be formed in the gallbladder. Even though we accept the view that all biliary calculi arise as the result of infection, is it not possible that the infectious process in the gallbladder which gave rise to the stones might eventually be overcome, and the calculi remain as "tombstones" of the dead bacteria? On the strength of postmortem examinations, the incidence of gallstones is placed as high as 12 per cent. in persons dying from all causes, and yet we know that not even a small fraction of 12 per cent. of the population ever suffers from symptoms severe enough to necessitate seeking surgical treatment. Every abdominal surgeon has discovered calculi in the gallbladder of patients who gave no history of gallbladder disease and who were operated on for disease in other organs in no way connected with the gallbladder. W. J. Mayo[5] reports that in 1,244 cases of women operated on for uterine myomas at the Mayo Clinic, ninety-two (7.1 per cent.) showed the presence of biliary calculi; while in patients operated on for various gynecologic lesions, Peterson[6] encountered gallstones in 12.5 per cent. I

3. Jacobson, Conrad: Gallbladder Disease: A Statistical Study, Arch. Surg. **1**: 310 (Sept.) 1920.

4. Mayo, C. H.: Cholecystectomy with Modified Drainage, Collected Papers of the Mayo Clinic **12**: 119, 1920.

5. Mayo, W. J.: "Innocent" Gallstones a Myth, J. A. M. A. **56**: 1021 (April 8) 1911.

6. Peterson, R.: Gallstones during the Course of One Thousand and Sixty-Six Abdominal Sections for Pelvic Disease, Surg., Gynec. & Obst. **20**: 284, 1915.

am convinced that many of these patients suffer from symptoms so slight as to be unrecognizable, and that in a certain proportion the presence of the calculi will cause no serious disturbance. If we accept this view, are we justified in drainage of the gallbladder after accidental discovery of the gallstones? The realization that this course will result in the formation of dense, crippling adhesions in many instances, producing very definite symptoms, is certainly reason for hesitation. On the other hand, should the apparently normal gallbladder be removed? Though it has been claimed that removal of the gallbladder does not lead to any disturbance, it has not been proved to be free from exerting any detrimental action. Most truthfully has it been said: "Uncertainty as to function and confidence in readjustment are, at best, questionable motives for adventures in ablation." [7]

Is there no middle course that may be followed in these cases? Because of a history suggesting cholecystitis, or because of the accidental discovery of gallstones, are we compelled to subject the patient either to the chance of an accentuation of his discomfort or to a loss of a normal organ? It has seemed to me that in the ideal cholecystotomy, with the omission of drainage, such a middle course is to be found. This operation was first performed at a time when diagnostic methods were crude and operative technic was poorly developed; and because the results obtained under those conditions were poor is no justification for the almost universal condemnation of the operation that is now encountered. Though the literature abounds with reports, proving, according to the bias of the operator, the superiority of cholecystostomy or of cholecystectomy, I am unaware of a single recent series of cases in which cholecystotomy was used with disastrous results.

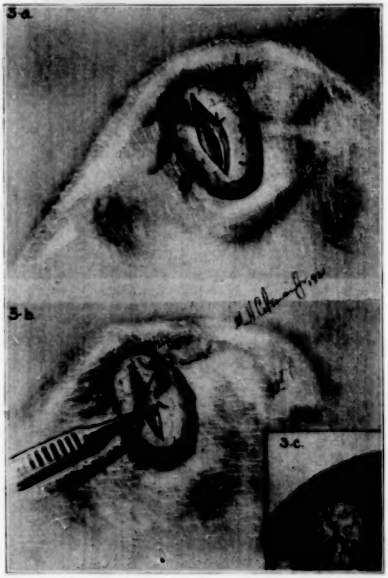

Fig. 3.—First sutures (*a*) include muscular and submucous coats; *b*, closing visceral peritoneum; *c*, final appearance of closed gallbladder.

The objections that may be advanced against cholecystotomy are: (1) a failure to cure the disease; or (2) damage from escape of bile into the peritoneal cavity.

It has been pointed out that, with the use of existing methods, a certain proportion of the patients operated on for gallbladder disease in reality have normal gallbladders; therefore, the drainage or removal of the gallbladder would not effect a cure. Cholecystotomy, however, would allow an internal exploration of the organ in these suspected cases. If, externally and internally, the gallbladder gave no signs of disease, no matter how much "dyspepsia" the patient had suffered from, it scarcely seems that there is ground for more radical measures. On the other hand, if we accept the view that sterile, symptomless gallstones may exist, it would indeed seem possible that they might be removed and the gallbladder incision afterward closed tightly, thus accomplishing a cure with as much certainty as would be the case after cholecystectomy.

As to the second point, namely, the possibility of the escape of bile into the peritoneal cavity, the danger is more fancied than real. In the first place, with the technic to be illustrated, there is no reason why bile should escape. Bile pressure, either as a result of the secretory activity of the hepatic cells or the contractile power of the gallbladder, is low: so low that there is no danger of leakage through a properly sutured wound, provided no foreign body, such as a drain, be placed in contact with the suture line. Even though a small amount of bile did escape into the peritoneal cavity, no serious harm would ensue. I have found that, in dogs, making an incision into the gallbladder several times larger than the diameter of the common duct not only is survived, but examining the peritoneal cavity several weeks afterward fails to show any effects, except the presence of adhesions in the vicinity of the gallbladder.

Not only is the freedom from danger of cholecystotomy demonstrable by animal experimentation, but the opportunity to use the operation clinically has occurred in a few cases, and the results obtained here have still further convinced me that there is a definite field of usefulness for this procedure. In the present state of our knowledge, it would seem that this operation is definitely indicated, first, for the purpose of exploration in those cases in which there exists more than a possibility that we are dealing with a normal gallbladder, and, secondly, to remove the danger of future trouble when calculi are present as sterile foreign bodies in a gallbladder free from pathologic changes.

TECHNIC

In performing the operation of cholecystotomy in the cases in which it is indicated, it is scarcely necessary to emphasize the importance of careful technic. Three points deserve especial mention: (1) the avoidance of unnecessary trauma to the gallbladder; (2) protection of the adjacent peritoneum from contact with the concentrated and, possibly, infected bile; (3) tight closure.

Seizing the gallbladder with clamps injures the wall and will inevitably interfere with healing; the organ

7. The Functions of the Gallbladder and the Bile Ducts, editorial, J. A. M. A. 77: 1738 (Nov. 26) 1921.

must be handled with the utmost care. Packing gauze around the gallbladder, according to Moynihan's suggestion, preliminary to opening it (Fig. 1 *b*) prevents soiling the peritoneum with bile. A trocar is then thrust through the wall (Fig. 2 *a*) and the bile removed as thoroughly as possible. Next, the opening in the gallbladder is enlarged and the irrigator-aspirator introduced (Fig. 2 *b*), the gallbladder being carefully irrigated with isotonic saline solution. The gallbladder is then carefully inspected, internally as well as externally, and any calculi that may be present are removed.

It has been found that the use of a lens giving a magnification of ten diameters is a great assistance in the internal inspection, bringing out detail that could not be detected by the unaided eye.

In closing the gallbladder incision, a small curved intestinal needle and No. 0 to No. 1 plain catgut are employed. The first line of sutures includes the muscular and submucous coats, but does not penetrate the mucosa or the visceral peritoneum (Fig. 3 *a*). Finally, the edges of the peritoneal coat of the gallbladder are brought together by a stitch which occasionally dips down to include the muscular coat, thus eliminating dead space (Fig. 3 *b*).

DERMATITIS HERPETIFORMIS IN CHILDREN

REPORT OF TWO CASES

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Dermatitis herpetiformis is a somewhat uncommon cutaneous disease characterized by the presence of an eruption of vesicles, papules, bullae or pustules, occurring in groups and usually accompanied by intense itching and burning sensations.

The disease is often ushered in with a sense of chilliness, some fever, and a feeling of malaise. The eruption, which may be any of the types mentioned, is almost always symmetrically distributed, is grouped, and occurs in successive attacks with periods of partial or complete remission. The lesions of one attack may be of one type, or at least one type may predominate, and in the next recurrence they may present an altogether different aspect.

The symptoms consist of intense itching, burning or pricking sensations, and are virtually always present. These are most marked at the beginning of an attack, and are relieved on rupture of the lesions. In long continued cases, the lesions are found on special areas, such as the elbows, the lumbosacral region, the popliteal spaces, the trochanteric regions and about the scapulae. The lesions occur in successive groups, and their grouping is characteristic. The general health is well preserved, even in cases of long duration.

Dermatitis herpetiformis in children is not at all common. McLeod[1] states that in 11,000 cases of cutaneous diseases admitted to the Victoria Hospital for Children, there were only three cases of dermatitis herpetiformis.

In 1907, Knowles[2] reviewed the literature and reported a case in a girl, aged 6 years. He found at that time fifty-seven reported cases by forty-one different authors. The disease as it occurs in children, Knowles concludes, shows four distinct differences from the adult type. Itching is not so marked as in adult cases, the multiformity of the eruption is absent, grouping is found but seldom, and pigmentation as a sequel is present in less than a quarter of the cases. Both of our cases, however, showed marked itching, and distinct grouping. The multiformity was not marked; and, while there was some pigmentation, it was not very noticeable.

REPORT OF CASES

The first case described is interesting because of the age of the patient, its widespread character, and its response to treatment.

W. K., a boy, aged 18 months, was brought to the outpatient department of the Children's Memorial Hospital, May 4, 1921, with a widespread bullous and papulovesicular eruption. There was little in the paternal or maternal history of importance except that the mother had always been of a nervous temperament. The patient was the fourth child. Two others were living and well; one died of pneumonia. The mother suffered a severe attack of influenza in March, 1919, while carrying the child, but recovered and was delivered at term without instruments after a two hours' labor.

At birth, the child weighed 8 pounds (3.4 kg.). He was breast fed for the first two months, and then breast fed with supplementary feedings until he was 11 months old. At that time he was put on a general diet. He had his first teeth at 6 months, and walked at 10½ months. Until the last year he had had no contagious disease. In the summer of 1921 he had whooping cough. He had never been vaccinated, had always slept poorly, and had always been extremely nervous and irritable. The present illness began about Feb. 1, 1921. At that time a small bulla developed on the chin. It was treated locally, and in a few days disappeared. The first week in March, small pea sized bullae appeared on the calves of the legs. A day later, similar lesions appeared on the extensor surfaces of the arms. The disease in this way kept appearing, until three weeks later it had extended over both legs up as far as the loins, over the back, both arms, scalp and face. This attack lasted three or four weeks, and then cleared up.

April 20, the disease again recurred on the same sites, and the child was brought to the dispensary, April 27. When examined, the child appeared extremely nervous and restless. His legs, arms, hands and feet were covered with a bullous and papulovesicular eruption that was pruritic. The predominating lesion was a bulla, the size of a bean. These bullae were tense and distended for the most part, but numbers of them had ruptured, and the broken lesions were covered with scabs.

The other lesion seen was papulovesicular, and was the size of a split pea. Both the anterior and the posterior surfaces of the legs and arms were the seat of most of the eruption, though numerous lesions were present on the hands and feet, in groups on the back, abdomen and chest, and in places on the face, about the mouth, ears and scalp. The grouping was best seen on the back, abdomen and chest. There were also seen crusts, excoriations and areas of pigmentation, the seat of former lesions. A tentative diagnosis of dermatitis herpetiformis was made, and liquor potassii arsenitis (Fowler's solution), 1 minim (0.06 c.c.) three times daily, increasing the dosage 1 minim daily, with a soothing lotion externally, was prescribed for him. The patient returned two weeks later with the greater part of his eruption gone.

A general physical examination revealed the head symmetrical and the fontanels closed. The pupils were equal, and reacted to light and accommodation. There was no nystagmus or strabismus. There was a slight purulent discharge from the nose and left ear. The tonsils were enlarged and ragged.

1. McLeod: Diseases of the Skin, New York, Paul C. Hoeber, 1921, p. 886.

2. Knowles: J. Cutan. Dis. **25**: 247, 1907.

The cervical glands on both sides of the neck were enlarged to the size of a bean. They were not tender. The heart and lungs were normal. The liver was barely palpable, but the spleen was not. There was no abdominal tenderness. The prepuce was long, but not adherent. Both testicles were in the scrotum. The reflexes were active. The specific gravity of the urine was 1.015, and the urine was normal.

Blood examination revealed: hemoglobin (Sahli), 80 per cent.; erythrocytes, 4,790,000; leukocytes, 21,100; polymorphonuclear leukocytes, 33.1 per cent.; small lymphocytes, 55.3 per cent.; large lymphocytes, 5.4 per cent.; eosinophil cells, 4.0 per cent.; basophil and transitional cells, each, 0.6 per cent.

CASE 2.—I. F., an undersized girl, aged 10 years, brought to the office by her parents, Dec. 29, 1921, had had the present eruption continually for the last two years. At times it had been distinctly better, but never entirely well. She was an only child, and lived on a farm just outside Chicago. Both parents were living and well. None of the family had ever had a cutaneous disease, and there was no history of miscarriages. She had never been vaccinated, and had never had any of the acute contagious diseases of childhood. The present trouble began two years before on the neck.

The child presented a textbook picture of dermatitis herpetiformis. There was symmetrically placed groups of lesions extending over the entire body. The intervening skin was normal in every respect. These groups were of various sizes, some as large as the palm of the hand, others the size of a silver half dollar. They were made up of papules and papulovesicular lesions ranging in size from that of a pinhead to that of a split pea. These groups were seen over the sternum, the scapulae, flexures of the elbows, backs of the hands, lumbosacral region, inner surface of the thighs, popliteal spaces, and dorsal surfaces of the feet. The chief symptom complained of was marked itching, especially when she was warm.

The height of the patient was 4 feet 5 inches (134.6 cm.), weight, 54 pounds (24.5 kg.). The eyes were clear; the pupils reacted to both light and accommodation. There was no nystagmus or strabismus. The tonsils were very large, but did not appear diseased. The teeth were in fair condition. The chest was symmetrical, and the heart and lungs were negative. The liver and spleen were not palpable. The reflexes were active. The specific gravity of the urine was 1.014; no albumin or sugar was present. The Wassermann reaction was negative. Blood examination revealed: hemoglobin, 81 per cent.; erythrocytes, 4,130,000; leukocytes, 5,200; polymorphonuclear neutrophils, 62 per cent.; eosinophils, 4 per cent.; basophils, 0; large mononuclears, 3 per cent.; small mononuclears, 31 per cent.

Generalized eruption of papulovesicular lesions in Case 1.

The first patient has been under observation for the last ten months, and when last seen, a week before this was written, still had slight attacks, with scattered groups of a papular and bullous eruption, but has gained in weight and strength and looks and acts like a normal child. His nervousness has to a great extent disappeared. When first seen, arsenical medication was begun. Fowler's solution, beginning with 1 drop daily and increased gradually until he was taking 15 drops (1 c.c.) daily, was given. After three weeks of this medication, the eruption entirely disappeared. To ascertain whether the eruption had disappeared spontaneously or whether the arsenic was controlling it, the medication was discontinued, and the eruption promptly reappeared.

Dermatitis herpetiformis is so uncommon in children that it was with hesitancy that the diagnosis in this case was made. It is well known that arsenic will sometimes control these pemphigoid eruptions in children. The fact that the disease was multiform in its lesions, the distinct grouping seen, the presence of small pea sized bullae arising from erythematous macules, the intense itching and the lack of involvement of the mucous membranes, together with its frequent reoccurrence when medication was discontinued, seem to clinch the diagnosis.

Dermatitis herpetiformis is a disease of adult life, rarely of children. In some cases there is found nothing to account for the intense cutaneous reaction. In some, the general health seems unimpaired. Enough, however, is known to indicate that, in adults at least, the disease is a neurotic one. It manifests itself time and again after severe mental strain and nervous shock, and its connection with the nervous system is well seen in cases that are due to pregnancy.

Leredde believes that the toxin responsible for the disease is a product which in health is eliminated by the urine, but, in renal disease, accumulates and acts on the nervous system, the skin and the blood cells; hence the eosinophilia. Crocker [3] believes that it can be explained by a toxin produced in the intestine which causes a reflex irritation of the vasomotor centers.

In the cases investigated by Knowles, the majority of the children were in good condition. In twenty-six of the fifty-seven reported cases there was a possible cause. In eleven cases there was a marked neurotic tendency in the family. In the others, diphtheria, pertussis, nephritis, sepsis, vaccination and phimosis were considered the etiologic factors. Roussel has reported a case in which phimosis was apparntly the cause since, after circumcision, the child recovered. In our first case the mother's influenza and her extreme nervousness were possible factors in the etiology of the disease. In the second one there was no factor that we could consider.

Bowen [4] has reported six cases in which the diagnosis of dermatitis herpetiformis seemed to be the only logical one and vaccination seemed to be the causative factor. Cases with this etiology have been reported by Pusey, Dyer and Stelwagon.[5] Neither of our patients had been vaccinated. The youngest reported case is that of Morris [6] in an infant, aged 13 weeks.

3. Crocker: Diseases of the Skin, Philadelphia, P. Blakiston Son & Co., p. 336; Brit. M. J., 1896, p. 969.
4. Bowen: J. Cutan. Dis., 1901, p. 401; 1905, p. 79.
5. Stelwagon: Diseases of the Skin, Philadelphia, W. B. Saunders Company, 1919, p. 276.
6. Morris, Malcolm: Brit. J. Dermat., 1896, p. 275.

POTENTIAL CARDIAC DISEASE AND PREVENTION OF ORGANIC HEART DISEASE IN CHILDREN

A STUDY OF SIXTY-FIVE CASES UNDER CONTINUOUS OBSERVATION FOR AN AVERAGE PERIOD OF FOUR AND ONE-HALF YEARS *

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NEW YORK

PART I. POTENTIAL CARDIAC DISEASE

In the winter of 1915-1916, the cardiac patients under care in the general pediatric clinic at St. Luke's Hospital were grouped together in a special clinic where an energetic effort was instituted for the relief of cardiac disease. It soon became apparent that, in all probability, preventive measures would yield more satisfactory results than could be obtained by attention to relief alone. It was a matter of common knowledge that between 80 and 90 per cent. of the cases of organic heart disease in children were closely associated with the so-called rheumatic manifestations. The heart did not always become involved at the first appearance of these conditions, but with repeated attacks the chances became ever greater that actual damage would occur. A study of the natural history of the rheumatic manifestations disclosed that the active phases tended to recur, often with increasing frequency and severity. In many instances the advent of cardiac involvement was a matter of time alone. Accordingly, cases of acute rheumatic fever, chorea, recurring pains in the bones and joints (growing pains), and myositis, in which the heart was normal were classified as potential cardiac cases.[1] This term seemed particularly well adapted to this group of cases, and children suffering from these conditions were enrolled as regular members of the cardiac clinic. Although the organization, management and methods employed in this clinic have already been described in detail,[2] it was found necessary to wait a considerable period before trustworthy deductions as to the value of the work could be made. This paper is concerned with the results obtained. It is well understood that, while important, the findings in so small a series of cases could not be considered as final.

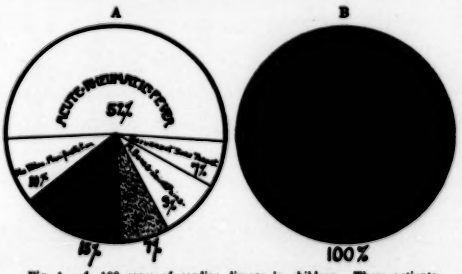

Fig. 1.—*A*, 100 cases of cardiac disease in children. These patients were not under management during the potential stage of the disease, but appeared at the clinic with a lesion in the heart. The relative frequency of the rheumatic manifestations in these cases is indicated by the various sectors in the circle. The cardiac lesion was attributed to acute rheumatic fever (no chorea in these cases) in 52 per cent. In 7 per cent., both acute rheumatic fever and chorea had occurred, and it was impossible to determine which factor was responsible for the lesion in the heart. Disease of the heart was attributed to chorea in 15 per cent. of the cases. If this factor was responsible for all the lesions occurring in cases showing both chorea and acute rheumatic fever, the total attributed to chorea would be 22 per cent. *B*, the sixteen patients admitted to the clinic during the potential stage who developed cardiac disease while under management. The lesions in all of these cases were attributed to chorea (100 per cent.). A striking difference in the importance of the various rheumatic manifestations concerning disease of the heart may be noted, depending on the presence or absence of treatment. Preventive measures have greater effect when directed against acute rheumatic fever and myositis, bone and joint pains and sore throat. All cases characterized by these manifestations have remained free of cardiac disease to date. In the untreated potential case, acute rheumatic fever is the most important factor, whereas, in the potential case under treatment, chorea is the most important rheumatic manifestation concerning disease in the heart. Solid black, chorea; shaded area, both acute rheumatic fever and chorea.

CLINICAL ENTITIES INCLUDED IN THE POTENTIAL CARDIAC GROUP

It is deemed wise to define specifically the clinical entities included in this series of potential cardiac cases and to state the reasons for such inclusion. The conditions referred to as rheumatic manifestations are, as a rule, fairly definite clinical entities in children. By acute rheumatic fever is meant the classical polyarthritis (infrequently monarthritis) associated with a febrile reaction and physical changes in the joints which return to normal (or apparently so) at the cessation of the attack. Cases showing chronic changes in the joints have not been included. Myositis refers to conditions such as torticollis. By bone and joint pains are meant the constantly recurring dull, aching pains in the hands, feet, long bones and larger joints which were unaccompanied by a febrile reaction or physical change in the part. By chorea is meant the classical clinical entity characterized by the typical movements. Sore throat refers to tonsillitis or pharyngitis. Although these conditions (except acute rheumatic fever) are seen in the general pediatric clinic with great frequency in all degrees of severity, only severe and clearly defined cases were selected for enrolment in the potential cardiac group. The acceptance of all cases, the milder ones of which were only remotely predisposed to cardiac disease, would have defeated the purpose of the special class.

The number of cases of each clinical entity was dictated largely by the material available. The rheumatic fever group is relatively small because the heart is frequently involved at the first attack. Cases of chorea are numerous, and in most instances this disease persists for a prolonged period before a lesion occurs in the heart. Larger numbers are therefore readily available. Nine per cent. of our cardiac children give a history of recurring attacks of myositis and bone and joint pains in the absence of acute rheumatic fever or chorea. For this reason these conditions were believed to bear a close relation to disease of the heart, and children with such a history were included in the potential group. Frequently, such recurring attacks of myositis and bone and joint pains precede, for varying periods, typical attacks of acute rheumatic fever with accompanying cardiac

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* Published from the Department of Diseases of Children, Columbia University College of Physicians and Surgeons and the Children's Cardiac Clinic, St. Luke's Hospital, New York.

1. St. Lawrence, William: A Clinical Classification of Cardiac Disease, Arch. Pediat. 34: 308, 1917.
2. St. Lawrence, William, and Adams, E. Louise: The Organized Care of Cardiac Children, Hosp. Social Service Quart. 2: 151, 1920.

involvement. About 7 per cent. of cardiac children give a definite history of recurrent attacks of sore throat in the absence of other rheumatic manifestations; however, when the great frequency of this condition throughout childhood was considered, it was found unpractical to include them.

Opinions differ as to the importance of scarlet fever, diphtheria, pneumonia and other acute infectious diseases in the production of cardiac disease in childhood. While these diseases would seem to be occasionally accompanied by a lesion in the heart, it was felt that they had no great bearing on the cardiac problem.

THE PERIOD OF OBSERVATION

These children have been under continuous observation for from one and one-half to six and one-half years, or an average period of four and one-half years. Throughout this entire time they have been carefully questioned and examined at fairly regular intervals. During the earlier and more active stages of the disease, examinations were performed at intervals of from one to four weeks. When the heart had remained normal long after the rheumatic manifestations had ceased to recur, and when the general health and nutrition made it possible, the patients were placed on the inactive list at the clinic and examinations were then made at intervals of from three to six months. Not infrequently, as in Case 57, Table 3, the course of the disease has been continuously observed from the earliest stages to the unfortunate end. Virtually all patients have been questioned and examined within a few weeks of the date of writing. Case 1, Table 2, will serve as an example. This child was under observation almost seven years, during which time she was examined forty-eight times—an average of one examination in every six weeks. She has been well most of this time, and her heart has remained normal to date.

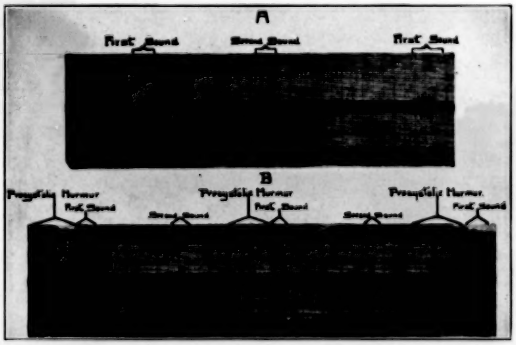

Fig. 2.—Effect of the rate of the heart on the murmur of mitral stenosis: *A*, graphic record of sounds at the apex of the heart made while child was at rest. The heart rate was about 85. *B*, graphic record of sounds at the same location on the same child. This was made a few minutes later, immediately after the child had hopped ten times on one foot. The heart rate was about 126. The increased rate of the heart is accompanied by the presence of a low pitched murmur which begins in mid-diastole and ends in the first sound. This murmur is not present in the first record, which was taken at a lower heart rate.

Such intense observation requires much time and necessarily places a limit on the size of a cardiac class. The facilities of the average large general hospital permits of an enrolment little beyond 250 cases. In the well balanced clinic, scarcely more than 25 per cent. can be devoted to potential cardiac patients, and it will therefore be seen that the total number in any one clinic will probably never be very large.

THE SERIES

This series comprises sixty-five potential cardiac cases. They have been arranged in four symptom-groups in Table 1. Tables 2 and 3 give detailed information of individual cases. There were thirty-one girls and thirty-four boys. Of the twenty-five rheumatic fever patients, nine were girls and sixteen were boys; of the eight patients with bone and joint pains, two were girls and six were boys; of the forty-one chorea patients, twenty-three were girls and eighteen were boys. The ages varied from 5 to 12 years on admission to the clinic. The average age was 8 1/3 years.

RESULTS OF AN ATTEMPT TO PREVENT DISEASE OF THE HEART

Having placed a group of potential cardiac patients under highly organized management in an earnest effort to prevent disease of the heart, it would be valuable indeed to compare the results obtained with those occurring in a series under natural conditions. Unfortunately, there is no such series in children for comparison. A follow-up study of a group of cases of acute rheumatism comprising all ages (mostly adults) and not subject to modern methods of management showed that "23 per cent. of patients go through one or more attacks of acute rheumatism without any clinical affection of the heart, irrespective of the age when first attacked." It is implied that 77 per cent. of the patients contract a cardiac lesion at the first attack or subsequent attacks. When it is realized that cardiac disease more commonly accompanies acute rheumatism in children than in adults, the difference between these figures and those to be presented is even more striking than would at first appear.[3]

Of the sixty-five children under observation, forty-nine (75 per cent.) remained free from evidence of cardiac disease for an average period of four and one-half years. This seemed due almost entirely to the success of the effort to diminish the recurrence, or to cause the cessation of the rheumatic manifestations. This number, however, will almost certainly diminish with time, for there are children with normal hearts now in this group who are constantly suffering severe recurrences of acute rheumatic fever or chorea. In the past, such patients have rarely failed to contract eventually a lesion in the heart. It is difficult, indeed, to determine the time at which recovery from the rheumatic manifestations may be considered to be secure. Cases of recurrence are seen after years of complete freedom. In general, it may be stated that if a child remains free for a period of three years, recovery may be regarded as fairly safe. Observations on this matter in fifty children continuously followed over a period of five and one-half years

3. Kemp, C. G.: Prognosis of Acute Articular Rheumatism, with Special Reference to the Cardiac Manifestations, Quart. J. Med. 7: 251, 1913-1914.

revealed the fact that in only four cases was there recurrence between the third and the fifth years.

Sixteen children (25 per cent.) contracted a lesion in the heart while under observation. Except for

TABLE 1.—FOUR SYMPTOM-GROUPS

Patients Under Observation for an Average Period of 4½ Years		Patients Who Contracted a Lesion in the Heart While Under Observation	
		No. of Cases	Per Cent.
16	Acute rheumatic fever; no chorea	0	0
8	Myositis, and bone and joint pains associated with sore throat; no acute rheumatic fever or chorea	0	0
41 (32)	Chorea; no acute rheumatic fever	12	29
41 (9)	Chorea and acute rheumatic fever (see text)	4	44
65		16	25

uncommon instances described in Part II, each case was characterized by the continuous presence of a rheumatic manifestation in a severe form. Ten girls, as compared to six boys, showed cardiac involvement. This difference was probably due to the fact that there was a greater number of girls with chorea in the series.

ACUTE RHEUMATIC FEVER

There were twenty-five cases of acute rheumatic fever in the series. In sixteen of these there was no history of chorea, while the remaining nine had shown both manifestations.

In each of the sixteen cases of acute rheumatic fever unaccompanied by chorea, the heart has remained normal to date. These children had suffered from one to four attacks and had shown varying combinations with bone and joint pains and sore throat (Table 2, Group 1).

ACUTE RHEUMATIC FEVER AND CHOREA

There were nine cases in which acute rheumatic fever was associated with chorea. Five of these children have remained free from evidence of cardiac involvement (Table 2, Group 4). In each of the four others the heart has presented evidence of disease (Table 3, Group 6). The lesions are: two cases of aortic and mitral insufficiency; one case of mitral insufficiency, and one case of hypertrophy without demonstrable valvular lesion.

Because of the close observation of these children, it was possible to study the relation of the date of the attacks of acute rheumatic fever to the date and circumstances of the discovery of the cardiac lesion. In Case 62, Table 3, Group 6, the cardiac lesion preceded a very mild attack of acute rheumatic fever. It occurred during an attack of chorea. In Case 63, Table 3, Group 6, an attack of rheumatic fever occurred in January, 1917. During the next thirteen months this child was examined nine times, and no evidence of cardiac disease was found until February, 1918, when the diagnosis of mitral insufficiency was made. During this period she had suffered from chorea in varying degrees of severity. During an exacerbation of chorea, an aortic insufficiency was discovered in May, 1919. In Case 64, Table 3, Group 6, almost six years elapsed between the attack of acute rheumatic fever and the appearance of signs of disease in the heart. The lesion appeared during a recurrence of chorea. In the three years preceding the discovery of the cardiac involvement, this boy was examined twenty times, and the heart presented no evidence of disease at these examinations. In Case 65, Table 3, Group 6, nearly four years intervened between the rheumatic attack and the development of the signs of the cardiac lesion. During this time the manifestations of chorea were almost continuous.

In each of these four cases, only a single attack of acute rheumatic fever occurred. It was a very mild attack in every instance. In each case the heart presented no evidence of disease at repeated examinations for a prolonged period following the attack. The clinical picture of every case was dominated by chorea which was severe, uncontrollable, constantly recurring and present at the time of the discovery of the lesion in the heart. It would therefore seem certain that the heart remained uninvolved at the time of the attack of acute rheumatic fever, and that the lesion resulted from chorea in each of these cases.

TABLE 2.—FORTY-NINE POTENTIAL CARDIAC CASES IN WHICH THE HEART PRESENTED NO EVIDENCE OF DISEASE WHILE UNDER OBSERVATION FOR AN AVERAGE PERIOD OF FOUR AND ONE-HALF YEARS*

No.	Name	Age	Sex†	Date of Admission	Months Under Observation	Acute Rheumatic Fever	Myositis; Bone or Joint Pains	Chorea	Sore Throat
	Group 1—Cases of Acute Rheumatic Fever, No Chorea								
1	C. McL.	5	♀	7/15	80	+	+	0	++++
2	A. H.	5	♀	7/15	80	+++	++++	0	++++
3	T. M.	11	♂	7/15	80	+	0	0	+
4	R. P.	11	♂	7/15	80	+	++++	0	+
5	W. O'K.	12	♂	1/16	74	++	++++	0	++++
6	J. W.	6	♂	5/16	72	+	++++	0	++++
7	M. H.	7	♀	12/16	63	+	+	0	+
8	E. G.	10	♂	6/17	57	+	++++	0	++++
9	L. R.	10	♀	6/17	57	++++	++++	0	++++
10	E. M.	6	♀	3/19	36	+	0	0	+++
11	H. W.	11	♂	9/19	31	+	++	0	+
12	E. L.	6	♀	10/19	29	+	+++	0	++
13	O. L.	6	♂	4/20	23	+	+	0	++
14	P. McA.	7	♂	5/20	22	+	0	0	++
15	H. F.	11	♂	6/20	21	++	+++	0	+++
16	M. C.	6	♂	10/20	17	+	0	0	+++
	Group 2—Cases of Chorea; no Acute Rheumatic Fever								
17	W. W.	7	♂	6/15	81	0	0	++++	0
18	A. F.	9	♀	7/15	80	0	0	+++	0
19	O. W.	6	♀	2/16	73	0	0	+++	0
20	I. R.	8	♀	3/16	72	0	+++	+	++
21	N. M.	7	♀	5/16	70	0	0	+++	0
22	J. R.	10	♂	5/16	70	0	0	+	0
23	M. S.	8	♀	8/16	67	0	++++	++	+++
24	M. K.	12	♂	12/16	63	0	++	++	+
25	F. K.	6	♀	1/17	62	0	++	++++	+
26	L. R.	5	♂	3/17	60	0	+	+	+
27	H. W.	6	♂	4/17	59	0	++++	++	+++
28	M. G.	10	♀	4/17	59	0	++	++	0
29	C. N.	10	♀	5/17	58	0	++	+++	+++
30	F. K.	5	♂	5/17	58	0	0	+++	0
31	F. B.	7	♂	6/17	57	0	+	++++	++++
32	L. R.	10	♀	11/17	52	0	++++	++	++++
33	H. D.	11	♀	12/17	51	0	++++	++	+
34	J. F.	10	♂	10/19	29	0	+	+++	+++
35	W. B.	10	♀	11/19	28	0	0	+++	+
36	E. L.	7	♀	4/20	23	0	0	+	0
	Group 3—Cases of Myositis, Bone or Joint Pains; no Acute Rheumatic Fever or Chorea								
37	R. K.	5	♂	10/15	77	0	+++	0	+++
38	S. F.	6	♂	11/16	64	0	+++	0	+
39	J. M.	7	♂	12/16	63	0	++++	0	++
40	M. B.	5	♀	3/17	60	0	+++	0	+++
41	W. S.	8	♂	5/17	58	0	+++	0	+++
42	H. L.	6	♀	3/18	48	0	+++	0	+++
43	M. S.	7	♀	12/19	27	0	+++	0	+++
44	K. S.	11	♂	5/20	22	0	++++	0	+++
	Group 4—Cases of Acute Rheumatic Fever and Chorea								
45	H. M.	11	♀	5/15	82	+++	+++	++++	+
46	L. McM.	11	♂	6/15	81	++++	++++	+++	++++
47	F. M.	7	♂	4/17	59	+	+++	++	0
48	J. C.	8	♂	7/17	56	+	0	++	+++
49	J. O.	12	♂	7/20	20	+	+	+	+++

* The plus signs in Tables 2 and 3 are thus employed: In cases of acute rheumatic fever and chorea, each plus sign indicates a specific attack. In cases of myositis, bone and joint pains and sore throat, plus signs indicate degree in frequency and severity; + occasional; ++ frequent; +++ and ++++ constantly recurring. Figures in column under "Date of Admission" indicate month and year at which child was enrolled in the cardiac clinic.

† In tables 2 and 3, ♂ indicates male, and ♀ female.

MYOSITIS; BONE AND JOINT PAINS (GROWING PAINS)

Eight cases were characterized by recurring attacks of myositis, bone and joint pains, and sore throat in the absence of acute rheumatic fever and chorea (Table 2, Group 3). In each of these cases the heart has remained normal to date. Although these manifestations were frequently present often with considerable severity in Groups 5 and 6, Table 3, it was not possible to determine their relation to the development of the lesion in the heart.

CHOREA

There were thirty-two cases of chorea unassociated with acute rheumatic fever, and nine cases which had shown both of these manifestations (Tables 2 and 3). Except in six instances, all the cases were severe. They were characterized by from two to four more attacks, during the intervals between which there was often an almost constant low grade manifestation of the disease. Of the thirty-two cases unassociated with acute rheumatic fever, twelve children contracted a lesion of the heart. Of the nine cases which had shown both of these manifestations, four developed cardiac involvement. Of the total of forty-one cases of chorea, sixteen presented evidence of heart disease while under observation (39 per cent.). In every case in the series in which a cardiac lesion developed, it was attributed to chorea.* The lesions present in each case may be seen by reference to Table 3.

TABLE 3.—SIXTEEN POTENTIAL CARDIAC CASES IN WHICH ORGANIC DISEASE OF THE HEART DEVELOPED WHILE UNDER OBSERVATION †

Number	Name	Age	Sex	Date of Admission	Months Under Observation	Acute Rheumatic Fever	Myositis; Bone or Joint Pains	Chorea	Sore Throat	Cardiac Lesion	Date of Discovery	Causative Etiologic Factor
	Group 5.—Cases of Chorea; no Acute Rheumatic Fever											
50	P. L.	9	♂	5/15	82	0	0	++++	++++	M. S.	10/19	C
51	A. G.	10	♀	6/16	69	0	0	++++	0	M. I.	5/17	C
52	J. D.	8	♂	9/16	65	0	+++	++	++	M. S.	2/20	C
53	A. McE.	12	♀	11/15	76	0	+	++++	0	A. I.	6/16	C
54	L. R.	7	♂	3/17	60	0	+++	++++	+++	M. S.	1/20	C
55	M. W.	7	♀	6/17	57	0	0	++++	0	H.	4/21	C
56	E. K.	8	♀	6/17	57	0	0	+	+	M. I.	5/20	C
57	C. M. *	12	♀	11/17	44	0	++	++++	+++	M. and A. I.	5/21	C
58	C. W.	11	♀	1/20	26	0	0	+++	++	M. I.	2/20	C
59	M. B.	10	♀	5/20	21	0	+	+++	0	M. S.	4/21	C
60	M. D.	6	♀	7/20	19	0	+++	++++	++	M. S. and I., A. I.	2/21	C
61	T. B	6	♂	7/20	19	0	+	+	++++	M. S.	9/21	C
	Group 6.—Cases of Acute Rheumatic Fever and Chorea											
62	S. S.	11	♂	5/15	82	+ Nov. 1916	++++	++++	++++	M. and A. I.	10/16	C
63	A. F.	11	♀	4/16	71	+ Jan. 1917	++++	++	+	M. I., A. I.	2/18	C
64	P. V. T.	11	♂	11/16	64	+ Mar. 1914	++++	++++	0	M. I.	2/20	C
65	M. McK.	8	♀	7/19	31	+ Feb. 1916	0	++++	0	H.	11/19	C

* Died July, 1921, cardiac failure.

† Figures in column under "Acute Rheumatic Fever" indicate the date at which the attack occurred (Group 6). Letters in column under "Cardiac Lesions" indicate the lesion as: M. S., mitral stenosis; M. I., mitral insufficiency; A. I., aortic insufficiency; H., hypertrophy without demonstrable valvular lesion. Figures in column under "Date of Discovery" indicate month and year at which lesion was first observed. Letters in column under "Causative Etiologic Factor" indicate the rheumatic manifestation to which lesion was attributed; C, chorea.

COMMENT

There is a striking difference in the importance of the various rheumatic manifestations concerning disease of the heart, depending on the presence or absence of treatment during the potential stage. A study of the incidence of these manifestations in the histories of 100 unselected cases of cardiac disease in children which were untreated during the potential stage revealed: acute rheumatic fever, 52 per cent.; chorea, 15 per cent.; both chorea and acute rheumatic fever, 7 per cent.; myositis, bone and joint pains with sore throat, 9 per cent., and recurrent sore throat alone, 7 per cent. Acute rheumatic fever was the most important factor, and the greatest number of cases which might have been attributed to chorea was therefore 22 per cent. (Fig. 1 *A*). A great variation may be noted when these figures are compared to the incidence of the rheumatic manifestations in the sixteen potential cardiac patients who developed evidence of heart disease while under treatment. As already shown, in each of these cases (100 per cent.) the lesion was attributed to chorea (Fig. 1 *B*).

Measures of value in the prevention of heart disease were of greatest value when directed against acute rheumatic fever and myositis, bone and joint pains and sore throat, and least effective, if effective at all, when directed against chorea. This is not entirely unexpected. The effect of tonsillectomy on the recurrence of the rheumatic manifestations may be taken as an example. It has been shown that this procedure is much less likely to be followed by recurrences of acute rheumatic fever than chorea in cases presenting these manifestations before the tonsils were removed.[4] It will be shown in Part II that disease of the heart almost always arises during an active phase of a rheumatic manifestation. It is only natural, therefore, that measures of value in diminishing the recurrence or causing the cessation of these active phases should have influence on the advent of cardiac disease. In every instance in the series in which a cardiac lesion occurred, the case was characterized by recurring attacks of chorea. In the absence of this clinical manifestation, the heart remained free from disease. Acute rheumatic fever is the most important factor concerning disease of the heart in untreated cases of the rheumatic manifestations (52 per cent.), whereas in cases under management before the appearance of the lesion in the heart, chorea would seem to be the most important cause of such involvement (100 per cent.).

Chorea is almost certainly a manifestation of rheumatic disease. It is accompanied by some other rheumatic manifestation in a very high percentage of cases (from 65 to 80). It is associated with or followed by the same type of cardiac disease. It shows much the same seasonal variation, and it is almost always accompanied by a slight elevation in temperature. Other members of the family of a child suffer-

4. St. Lawrence, William: The Effect of Tonsillectomy on the Recurrence of Acute Rheumatic Fever and Chorea, J. A. M. A. 75: 1035-1041 (Oct. 15) 1920.

ing from chorea show a remarkably high incidence of the other rheumatic manifestations and cardiac disease. However, its greater frequency in girls than boys, its tendency to subside at puberty, and its infrequency in adult life would point to the influence of unknown factors.

It would seem unwise to retain the conception that the rheumatic manifestations are acute, self-limited diseases, usually terminating in recovery, but which predispose to future attacks. This is a conception which implies a complete cure at the conclusion of the acute attack, as might be justified, for example, in the case of pneumonia. It would seem better to consider these manifestations as expressions of a chronic disease of prolonged duration which is characterized by active and inactive (latent) phases. At present there is no method of determining the end of the latent phase and the advent of absolute cure. Chorea might be regarded as a central nervous system infection and, as such, less amenable to treatment than the other manifestations. It is a matter of common knowledge that syphilis is much more resistant to treatment when the central nervous system has become involved.

Practically all of the modern methods of treatment have been employed in the management of the chorea cases in this series. All have been equally unsuccessful in preventing recurrences, and only unusually was there any dramatic shortening of the active phase. The problem has been discouraging, and at times it has seemed quite hopeless. Because of the great frequency of this disease, the lack of effective measures in its treatment and the high percentage of cases which are accompanied by cardiac involvement, chorea is undoubtedly one of the most important, if not the most serious, chronic disease of childhood.

Part II. Development of Organic Disease of the Heart

The sixteen patients who developed cardiac disease while under observation, as well as many other cases in the cardiac clinic, have contributed interesting and important facts concerning the development and later clinical course of cardiac disease. Knowledge of the natural history of disease can be obtained only by the close observation of large numbers of cases over prolonged periods of time. The details of the natural history of cardiac disease in children were little understood when this work began, and great difficulty was experienced in predicting the course to be followed by a particular case. However, observation has taught that this disease develops or changes its course under fairly definite conditions, and that in the absence of these conditions the immediate future may be predicted with a fair degree of security. Cardiac disease in children gives evidence of its development or changes in its course during the active phase of a rheumatic manifestation or during a period of pyrexia. This applies to almost all cases except mitral stenosis, which may not present evidence of its presence for a year or more after the acute phases have subsided.

Development of cardiac disease during an active phase of the rheumatic manifestations or period of pyrexia

The heart may be involved during the first or subsequent attacks of any of the rheumatic manifestations. The greater the duration of the active phase, the greater the chance of cardiac involvement. When the active phase subsides, the child may be considered as entering the inactive or latent phase with a lesion in the heart. This latent phase is characterized by the absence of fever and all other acute or subacute manifestations of disease. It may persist for months or years. The physical signs of the heart will remain almost absolutely unchanged during this period, and become altered only on the recurrence of an active phase. The general health and nutrition are frequently excellent; the exercise tolerance is usually high, and as a rule these children enjoy a state of perfect well being. With the recurrence of any rheumatic manifestation or pyrexia, almost any course may ensue. This varies from no demonstrable change in the lesion and general health to marked changes, cardiac failure and early death. The lesions in the heart which arise under these conditions are pericarditis, hypertrophy and the lesions of the endocardium. With the exception of mitral stenosis, rarely have these lesions been observed to arise in the absence of an active phase.

Pyrexia is important in cardiac disease in children, for it may be the only clinical expression of active disease in the heart. It accompanies acute rheumatic fever, and is almost always present in chorea. It has been invariably present in every case of cardiac failure observed (decompensation). It is quite commonly present in cases showing an appreciable reduction of the exercise tolerance. When present in a child whose heart is diseased, it may be caused by a focus of infection elsewhere in the body or in the heart itself. It is usually difficult to determine definitely its location in the heart, and, as a rule, it is so attributed only after failure to find a cause elsewhere in the body. Not infrequently, however, a change in physical signs, such as the occurrence of an aortic insufficiency in a case of mitral disease, will place the site beyond doubt. Cardiac infection may arise in a child who has never shown any of the rheumatic manifestations, or it may appear in a child in whom these manifestations have previously occurred. It may appear in a normal heart or in one already diseased. Therefore, after eliminating other foci of infection, it is important to consider pyrexia in cases which have shown any of the rheumatic manifestations and in cases of cardiac disease, as an active phase of the rheumatic infection with the lesion probably in the heart. When the heart becomes extensively diseased, the rheumatic manifestations tend to subside; and although repeated attacks of cardiac failure (decompensation) with pyrexia may ensue, it is unusual to see a frank attack of acute rheumatic fever or a classical attack of chorea.

Development of cardiac disease in an inactive phase of the rheumatic manifestations during a period of well being

Except in cases of mitral stenosis, the heart invariably remained free from signs of disease if normal at the time that the rheumatic manifestations made a permanent disappearance. However, mitral stenosis was frequently observed to appear long after the cessation of any rheumatic manifestation or pyrexia of any kind, during a period of freedom from infection, normal exercise tolerance and perfect well being. In Case 50, Table 3, Group 5, there was no recurrence of any rheumatic manifestation or pyrexia of any kind after May, 1918. During the next eighteen months this boy was examined five times at fairly regular intervals, and the heart presented no evidence of disease.

He was absolutely fit, had a normal exercise tolerance, and attended school regularly. In October, 1919 (eighteen months later), a typical rough, crescendo, presystolic murmur was heard at the apex when the heart rate had been elevated by exertion. The boy remained in the same excellent condition with no change in the physical signs until May, 1921, when a rough, rumbling diastolic murmur was present at the apex when the heart rate was low (rest) and the murmur already described was present after elevation of the heart rate by exercise. In Case 52, Table 3, Group 5, there was absolutely no return of any rheumatic manifestation or pyrexia after April, 1917. This boy enjoyed perfect health and possessed a normal exercise tolerance. There was no evidence of disease at monthly examinations during the next seven months (November, 1917). Owing to war conditions, he was not examined until February, 1920. There had been no recurrence of any rheumatic manifestation or pyrexia of any kind, his health had been practically perfect, and he had had a normal exercise tolerance. At examination of the heart, it presented a typical rough, crescendo, presystolic murmur at the apex after elevation of the heart rate by exertion. Patient 61, Table 3, Group 5, suffered from an attack of chorea from July to September, 1920. At frequent examinations during the next twelve months the heart presented no evidence of disease. This boy had remained free from any rheumatic manifestation or pyrexia and had been in good health with a normal exercise tolerance. In September, 1921, the heart presented a typical rough, crescendo, presystolic murmur at the apex after elevation of the heart rate by exertion. The diagnosis of mitral stenosis was made in each of these cases. They were typical examples of a sequence of events observed in other members of the cardiac clinic.

Mitral stenosis was the only lesion observed to arise after the cessation of the active phases of rheumatic infection. A year or more intervened before the heart presented evidence of disease. In each instance the child had enjoyed a prolonged period of perfect well being. Whether this change in physical signs was caused by active disease or whether it was the result of contraction of the chordae tendineae and the web-like addition to the valve between them cannot be determined. The excellent general health of these children might seem to favor the latter view. These cases have importance from the fact that they demonstrate that it is impossible to state at the conclusion of an attack of acute rheumatic fever or chorea that the heart has been unaffected by these conditions.

THE EFFECT OF THE RATE OF THE HEART ON THE MURMUR OF MITRAL STENOSIS

The effect of increased heart rate (exercise or amyl nitrite [5]) on the physical signs of mitral stenosis in children is often little short of dramatic. The examples given above are typical of many children in the cardiac clinic. They presented no evidence of disease until the heart rate was accelerated. These and other children have frequently been placed before men of experience, who, because of their failure to examine the heart immediately after acceleration of its rate, did not succeed in detecting evidence of disease. This finding is frequent and important in the early diagnosis of mitral stenosis in children. Figure 2 is a graphic record of the heart sounds at the apex before and after exercise in the same child. It was made by Dr. Horatio Williams in his laboratory at the Columbia University College of Physicians and Surgeons.

This report is intended only as a presentation of the facts observed, for while it is felt that they are important, it is well understood that the number of cases in the series is insufficient for the formation of trustworthy conclusions.

5. Morison, R. A.: Value of Amyl Nitrite Inhalations in the Diagnosis of mitral Stenosis, Brit. M. J. 1: 452 (April 20) 1918.

SUMMARY

1. Sixty-five cases of potential cardiac disease in children were continuously observed for an average period of four and one-half years.

2. Forty-nine patients (75 per cent.) remained free from evidence of cardiac disease during that time.

3. Of twenty-five patients with acute rheumatic fever in the series, none contracted a lesion in the heart.

4. Of nine patients with myositis, bone and joint pains (growing pains) and sore throat, none contracted a lesion in the heart.

5. Sixteen patients (25 per cent.) contracted a cardiac lesion while under observation.

6. In every case in which a cardiac lesion developed, the clinical picture was dominated by chorea in a severe form. No patient contracted a lesion in the absence of this manifestation.

7. Of forty-one patients with chorea in the series, sixteen (39 per cent.) contracted a lesion in the heart.

8. Measures of value in preventing disease of the heart are of greatest benefit when directed against acute rheumatic fever and myositis, bone and joint pains (growing pains) and sore throat.

9. Such measures have little if any value when directed against chorea.

10. In untreated potential cases, acute rheumatic fever is the most important factor concerning disease in the heart.

11. In potential cases under management, chorea is the most important factor concerning disease in the heart.

12. With the exception of mitral stenosis, cardiac lesions practically always occur during the active phase of a rheumatic manifestation or a period of pyrexia. In the absence of an active phase, the physical signs in the heart remained unchanged.

13. Evidence of mitral stenosis may not appear for a year or more after the cessation of the rheumatic manifestations. It is therefore impossible to state at the conclusion of an attack of acute rheumatic fever or chorea that the heart was unaffected by these conditions.

14. Heart rate may have a marked effect on the physical signs of mitral stenosis, as shown by a graphic record.

950 Park Avenue.

Better Teaching of Obstetrics.—There is some difference of opinion among London obstetric physicians as to the best method of obtaining a definite improvement in the teaching of practical midwifery; while some of them believe the right course to be the establishment of large midwifery and gynecologic institutes, self-contained and closely associated with maternity and child welfare centers, others believe that a better solution is the provision on a more generous and better equipped scale of lying-in wards at the various medical schools.—*Lancet*, Dec. 13, 1919.

CARCINOMA OF THE SPLEEN

ITS MICROSCOPIC FREQUENCY; A POSSIBLE ETIOLOGIC FACTOR

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History.—G. Y., a woman, aged 42, white, married, admitted to the Hahnemann Hospital, April 7, 1921, complained of shortness of breath and pain in the left side of the neck. The family history contained nothing of importance. The patient had had measles, pertussis and mumps in childhood. She had suffered repeated attacks of tonsillitis, but no rheumatism. She spoke of "neuritis of the feet and legs." She denied alcohol and dietetic indiscretions. The menstrual history was normal. She had one child, living and well. In June, 1904, she was operated on at the Episcopal Hospital for a broad ligament cyst, and this and small ovarian cysts were punctured, but nothing was removed. In 1917, she was again admitted to the Episcopal Hospital with excruciating abdominal pain and symptoms suggestive of perforated gastric ulcer. The patient at this time gave a history of epigastric pain relieved by eating. At operation, the stomach, duodenum and gallbladder were normal: the appendix was injected and kinked, and was removed.

The present illness, according to the patient, began about a week before we saw her, when she awoke with a high fever and pain in the left side of the neck. She complained of anorexia, great thirst, shortness of breath, and a dry, hard cough. For three weeks she had suffered pain which came on about ten minutes after meals.

Examination.—The patient was in good mental but poor physical condition, with extreme anemia and a yellow skin suggestive of pernicious anemia. The teeth were poor, the gums retracted, the breath offensive, the throat negative. There was nothing local to explain the pain in the neck. The heart was slightly irregular. The systolic blood pressure was 124, and the diastolic 68 mm. Examination of the lungs revealed signs pointing to involvement of the left side of the chest, but evidence was not sufficient for a definite diagnosis. There was a lump in the left breast. The entire abdomen was sensitive, particularly along the lower border of the liver. The liver was slightly enlarged. The spleen was just palpable. Vaginal examination was negative except for a lacerated cervix. The temperature was 104 F., pulse 140, respirations 34. The roentgenologist reported findings suggestive of malignancy of the mediastinum with extension into the lung structure; also marked enlargement of the spleen. The urine showed a trace of albumin and a few casts. The hemoglobin was 21 per cent.; red cells, 1,230,000; white cells, 10,700. Differential count revealed: polymorphonuclears, 63; lymphocytes, 33; transitionals, 2; eosinophils, 1; basophils, 1. The spread showed few red cell changes, and these were not characteristic of pernicious anemia. A blood culture gave a rich growth of a hemolytic streptococcus.

The patient lived only three days in the hospital. During this time, she had a continuous high temperature and suffered frequent attacks of a hard, dry, nonproductive cough.

Necropsy.—This was performed, April 10, six hours after death. The right pleural sac contained about 250 c.c. (½ pint) of clear fluid, and both layers were very slightly thickened. The left pleura contained from 600 to 700 c.c. (20 to 23 fluidounces) of slightly cloudy fluid, and there was a fibrin-like deposit on both the costal and visceral layers, as in a serofibrinous pleurisy. The upper lobes of both lungs were crepitant and normal in appearance. The middle and lower lobe of the right and the lower lobe of the left lung were solid, resistant and noncrepitant. They were uniformly gray, fairly dry and firm on section. There were no nodules in either lung. The pericardium was normal. The heart valves and orifices and the myocardium were grossly normal. The mediastinum showed no noteworthy glandular enlargements.

There were a number of peritoneal adhesions, presumably from the previous operations. The liver was moderately enlarged, firm, smooth, light brown, and contained a few small white nodules. These nodules, of which there were only four or five, were from 3 to 10 mm. (⅛ to ⅜ inch) in diameter, and plainly resembled secondary malignant growths. The gallbladder was markedly contracted, and presented a thickened wall, especially at the neck. There were no gallstones, and the sac contained only a small amount of mucoid fluid, which could be expressed from the common duct on pressure. There were many adhesions between the gallbladder and the adjacent structures. The spleen was much enlarged, and measured 20 by 12 by 6 cm. (7¾ by 4¾ by 2¾ inches). The organ was smooth, firm, and on section exhibited a granite-like mottling. There were no nodules to be seen or felt. The pancreas was normal in appearance and size, though there was slight enlargement of the glands about the head. The stomach and intestines were normal. The kidneys were firm and pale; the cortices normal in width and appearance. The suprarenals were normal, as was the uterus. The ovaries were slightly enlarged and cystic. The left breast contained a roughly spherical white nodule, 4.5 cm. (1¾ inches) in diameter, and not attached to the skin or underlying tissues.

Microscopic examination of the breast tumor revealed a peculiar carcinomatous infiltration overwhelming what was apparently previously a fibro-adenoma. There were no large cell islands but mostly linelike strands of cells confined to the previously adenomatous areas: the intervening fibrous tissue, of which there was considerable, showed little or no infiltration. Several small blood vessels contained tumor cells. Microscopic examination of the lungs and pleura also revealed a diffuse, carcinomatous infiltration. The thickening of the pleura was seen to be due to row upon row of single lines of cancer cells, with here and there a dilated vessel containing a small group of tumor cells. Both the right and left lungs were involved, not only in the solid lower lobes but also in the grossly normal upper lobes. The infiltration appeared particularly in the lymph spaces around the pulmonary vessels, but even the large blood vessels contained great masses of cancer cells with fairly numerous mitotic figures. The alveolar spaces were not involved by the tumor growth. The lower lobes showed, in addition, edema, a low grade desquamative pneumonia and a few small abscesses.

The liver, likewise, exhibited an extraordinary, diffuse, carcinomatous infiltration. The tumor cell proliferation was most marked about the portal connective tissue islands, but was also widely distributed in the portal capillaries; and both interlobular and sublobular veins containing tumor cells were noted. The gallbladder was densely infiltrated with carcinoma from serosa to mucosa, the cells being especially numerous in the latter. The normal epithelium had largely disappeared, though occasionally a short chain of columnar cells, semidetached, was seen. The tumor cells were neither columnar in form nor adenocarcinomatous in arrangement, but occurred in small collections of from four to six or long strands of single cells, as in the breast. Cancer cells had invaded vessels and nerve sheaths. The spleen, like the liver and lungs, was infiltrated throughout the entire organ. The carcinomatous invasion was most marked about the trabeculae and entering vessels, but also involved the pulp to some extent. The malpighian follicles were largely replaced by neoplastic cells. Tumor cells within vessels were common. A section of the diaphragm showed no carcinomatous growth.

COMMENT

There is but little reference matter on splenic carcinoma. One may consult textbook after textbook on pathology to find scarcely more than a line of mention, and this is used to state its infrequency. There is little reward in a search of the journals. The indexes of THE JOURNAL for the last ten years contain no reference to cancer of the spleen. In Ewing's encyclopedic Neoplastic Diseases, the few references are incidental. For instance, in discussing the particular susceptibility of a tissue to develop secondary tumors, he simply states that the spleen seems to escape with peculiar

frequency.[1] In answer to an inquiry, Ewing[2] writes: "I do not remember an extensive infiltration of the spleen in mammary cancer, but this organ is sometimes the seat of bulky metastases from other epithelial growths. The largest I have seen were in ovarian adenocarcinoma and melanoma. I know of no summary of the literature on splenic metastases of carcinoma, while most of the references mention the comparative immunity of this organ, which on the whole is rather striking." Mallory[2] writes: "In the last twenty-five years, we have had 4,265 necropsies. There have been cancer metastates (of the spleen) ten times. That is a little oftener, probably, than you would have imagined." The rarity of splenic cancer has given rise to a hypothesis of tumor immunity of this organ. It has been shown, however, that the spleen does not possess any special resistance to tumor growth, for when neoplasms are implanted in the spleen they grow just as well as in any other part of the body.[3] The explanation of the infrequency, according to Wood,[4] lies (1) in the simple anatomic fact that the spleen possesses no afferent lymphatics; (2) in the sharp branching off of the splenic artery from the celiac axis, and (3) in the rhythmic pulsation of the spleen, whereby the tumor cells are kept oscillating in the splenic sinuses and do not find a resting place where they can obtain a foothold.

While carcinoma of the spleen is rare from any point of view, the mass of evidence on which the conclusion is based has been obtained from gross observation. The necropsy has undoubtedly furnished the statistics on this subject, and when secondary nodules have not been detected macroscopically, the search has seldom been pursued microscopically. The value of such study has been brought out by Deelman,[5] who finds that metastatic splenic cancer occurs much more frequently than macroscopic observation would lead us to suppose. He examined the spleen in seventy-five cases of carcinoma, and in seven, or about 10 per cent., microscopic splenic carcinoma was discovered. In not one of these was tumor evident grossly. Deelman follows the matter up, and shows, further, that in cases of splenic cancer we should look to the lung as the source of cancer cells and the blood vessels as the means of transmission. With regard to the origin of the metastatic carcinomas of the lung, he finds that gross manifestations or nodules are the result of lymph vessel emboli, while cancerous pneumonia and microscopic pulmonary carcinomas usually follow implantation by the blood vessels. These observations are especially appropriate to our own case, in which the lungs looked pneumonic and in which both the lungs and the spleen gave no gross hint of tumor growth, though microscopically they showed carcinomatous saturation. Schmidt[6] has also called attention to the frequency of tumor cell emboli in the lung without macroscopic changes. Once the lung is involved, grossly or microscopically, the possibility of splenic metastasis is opened.

The overwhelming streptococcus infection and the extreme anemia in our patient obscured the malignant aspects of the case during her three days' stay in the hospital. But, in the light of the microscopic findings and in quest of further exact information, we carefully interrogated her sister and husband, and reviewed the history with the hospital intern. The following additional information is more or less significant. A small lump in the breast had been noted at 13 years of age, but it gave the patient no trouble until about three years before her death, since which time it had been associated with pain. Some months before she went to an osteopath, who gave her "electrical treatments" and massage, and it was noted that after his treatments a lump developed in the left axilla. She was plainly anemic a month before she entered the hospital, and had had fever for one week. In the hospital, the patient remarked to the intern that she now thought she would have been better off if she had not gone to the last doctor; that she had had a lump in the breast and the doctor assured her he would scatter it or massage it away; that in his treatment, he had massaged her breast on numerous occasions. We looked up the osteopath in question, and found that he was listed as a neuropath. In answer to an inquiry over the telephone, he said he had used "electrical treatment" of the breast but no massage, but that he had massaged the abdomen and limbs after the electrical applications.

The deleterious effects of massage in malignant growths have been demonstrated both experimentally and clinically. Tyzzer[7] has watched in mice the active and early production of metastases following massage, and suggests that, for the advantage of the patient, it would be well to regard each questionable tumor of the breast as a high explosive, the least manipulation of which should be absolutely avoided. Wood[9] has shown that if a mouse tumor is massaged, the lungs in a few days will be riddled with small thrombi containing tumor cells. While only a few of these implantations continue to grow, it is obvious that repeated massage would multiply the chances. In further discussion, Wood[9] says, "A much better demonstration is, unfortunately for the patient, occasionally seen in those instances of carcinoma of the breast in which osteopathic treatment or massage has been applied to 'dissipate the tumor' by rubbing, or in those in which the possessor has used massage without instruction. In such instances, the whole thorax may be covered by an enormous number of skin nodules, and extremely early involvement of the bone marrow and all the organs of the body often occurs."

Just how important the massage factor was in this case is not certain. There is a contradiction in statements of the parts manipulated; but that some massage was carried out is admitted, and the final results are strong testimony. Such an extraordinary tumor dissemination suggests extraordinary means of dissipation. Adler,[10] in 374 cases of primary pulmonary carcinoma, reports liver metastases in 103, kidney in fifty-eight and brain in fifty-three, while the spleen was involved in only eighteen instances. This illustrates the comparative immunity of the spleen, even when the primary growth is situated most favorably for such metastases. It is likely, therefore, that some unusual factor contributed to the complete infiltration of the spleen in our case.

1. Ewing, James: Neoplastic Diseases, Ed. 1, Philadelphia, W. B. Saunders Company, 1919, p. 86.
2. Personal communication to the author.
3. Goldmann, E. E.: Beitr. z. klin. Chir. **122**: 1, 1911.
4. Wood, F. C.: Notes on Tumors, New York, 1920, p. 48.
5. Deelman, H. T.: Het metastatisch carcinoom van longen en milt in verband met de verspreidung van het carcinoom door het lichaam, Amsterdam, 1918. (I am indebted to Dr. F. C. Wood for a translation of this dissertation.)
6. Schmidt, M. B.: Die Verbreitungswege des Carcinoms, Jena, 1903.
7. Tyzzer, E. E.: J. M. Res. **28**: 309, 1913.
8. Wood, F. C.: Notes on Tumors, New York, 1920, p. 46. Knox, Leila C.: Ann. Surg. **75**: 129, 1922.
9. Wood, F. C.: Notes on Tumors, New York, 1920, p. 50.
10. Adler, I.: Primary Malignant Growths of the Lungs and Bronchi, New York, Longmans, Green & Co., 1912.

SUMMARY

Carcinoma of the spleen, secondary to cancer of the breast, and part of a general microscopic carcinomatosis was present in the case here reported. The rarity of cancer of the spleen is genuine, but there is evidence to show that there is actually no local immunity, and that microscopic examination may add considerably to the number of reported cases. In this case massage was probably an etiologic factor, an evidence of the danger of tumor manipulation.

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TREATMENT AND PREVENTION OF PELLAGRA BY A DAILY SUPPLEMENTAL MEAL *

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At the suggestion of Surgeon Joseph Goldberger, an outpatient clinic was established in connection with the U. S. Pellagra Hospital and Laboratory at Spartanburg, S. C., Nov. 1, 1914. The principal motive in establishing this clinic was to test the efficacy of a supplemental diet in the treatment and prevention of pellagra in persons continuing in their normal environment.

Practically all the patients so treated resided in the vicinity of the hospital, and, for the most part, were residents of Spartan cotton-mill village, which surrounds the hospital grounds. Three patients from more distant points were able to secure accommodations at some of the nearby homes, and from there attended the clinic. All were ambulant cases of a moderate degree of severity.

The treatment was dietary in character and consisted of one meal served daily at midday in the hospital dining room. In the earlier days of the clinic, a placebo consisting of 1 part of syrup of wild cherry or fluid-extract of licorice to 9 parts of distilled water was given in teaspoonful doses after each meal. An occasional laxative was given for obstinate constipation.

During the first four years of the operation of the clinic, the daily dinner consisted of fresh meat, vegetables, sweet milk, wheat bread (loaf), butter, and a dessert (usually fruit in some form). The following selections from the records are typical:

April 30, 1915: Beefsteak, field peas, sweet milk, wheat bread (loaf), butter, dessert.

April 28, 1916: Fried trout, turnip salad, mashed potatoes, wheat bread (loaf), sweet milk, butter, baked apples.

During the last two years of the operation of the clinic, corn bread was substituted for wheat bread, and buttermilk for sweet milk. Each patient was liberally served and urged to make a full meal; special emphasis was placed on the milk and meat.

Aside from this meal, the patients were allowed to follow their individual inclinations and habits, dietetically and otherwise. Many of them were cotton-mill operatives, several of whom resumed or continued their work in the mill while under treatment. A few children of school age, attending school during the sessions, came to the hospital for this meal. It is believed that there were very few, if any, changes in the hygiene and domestic environment of these patients, except possibly for the three patients from a distance who secured accommodations in the homes of mill families near the hospital so as to enable them to avail themselves of the advantages of the clinic. The medical inspections were made at the time the patients appeared for their dinner.

The clinic was in operation from Nov. 1, 1914, to July 1, 1920, during which period there were 105 admissions. Of this number, twenty-four were under treatment only a short time (less than three weeks), and are therefore excluded from consideration. Of the eighty-one patients continuing under treatment for a period longer than three weeks, twenty-seven did not present the characteristic pellagrous eruption at the time of admission, the diagnosis being based on the history or subjective complaints, or both. Since, in the present state of our knowledge of the clinical manifestations of the disease, more or less uncertainty attends a diagnosis in the absence of the distinctive skin lesion, it is considered best to exclude from present consideration the cases in which the diagnosis was not confirmed by the presence of the eruption.[1]

Of the fifty-four patients remaining, including five readmissions, fourteen were males and forty females. The ages varied between 2 and 62 years. With the exception of one colored male and one colored female, all were white native Americans. Nine were under treatment less than two months; eighteen from two to four months; eight from four to six months; three from six to eight months; one from eight to twelve months, and fifteen for one year or more. Of the fifteen patients who completed the first anniversary of their attacks under treatment, three completed also the second, two the third, and one the fourth.

In order to test, as thoroughly as possible, the influence of the supplemental meal on the prevention of seasonal recurrences, the patients were encouraged to continue under treatment even after all pellagrous symptoms had disappeared. The date of discharge, therefore, bears no constant relationship to the date of recovery from pellagrous symptoms. The average patient appeared to have fully recovered from *symptoms* within from six to ten weeks from the date of admission to the clinic. With one exception, all were free from both objective and subjective manifestations of pellagra at the time of discharge. One, Patient 93, a man, aged 53, discontinued treatment against advice after two months and three days. Though the eruption and most of the subjective symptoms had completely disappeared, he was not entirely free from nervous complaints when he ceased to appear for his meals. This patient showed marked constitutional symptoms, with pronounced mental involvement, on admission. His appetite was poor, and his teeth were in such bad condition that he could not chew his food properly. However, he showed considerable improvement during his attendance at the clinic. No patient showed a return of symptoms while under treatment.

The results of the treatment are summarized in the accompanying table.

* The organization of the clinic begun by former P. A. Surgeon R. A. Herring was completed, and the major portion of the data herein analyzed was recorded under the supervision of Surgeons R. M. Grimm and G. A. Kempf.

1. It should be stated that, beyond a reasonable doubt, many of these patients were clinically pellagrins, and that in most instances their general improvement was no less marked than in those who presented themselves with the eruption.

It is to be observed from the table that there had been a uniformly high percentage of annual recurrences among these patients prior to admission to the clinic. Of the two patients who gave a history of having had attacks in 1911 and six in 1912, all (100 per cent.) had recurrent attacks the following years. Of the ten who had attacks in 1913, and an equal number who had attacks in 1914, nine (90 per cent.) had return attacks the following years. Of the three patients who had attacks in 1915, all (100 per cent.) had attacks the following year. Of the seven who had attacks in 1915, and the same number who had attacks in 1917, six (85.7 per cent.) had recurrent attacks the following years. There were two patients who had attacks in 1918 and one in 1919, all (100 per cent.) of whom had recurrent attacks the following years.

SUMMARY OF PERTINENT DATA RELATING TO FIFTY-FOUR ADMISSIONS TO OUTPATIENT CLINIC FOR SUPPLEMENTAL DINNER

Case No.	Prior Attacks	Admitted	Discharged	Condition on Admission	Condition on Discharge	Recurrences Under Treatment
1	1913	11/ 2/14	12/27/15	Eruption	No symptoms	None
2	1913	11/ 2/14	8/ 4/17	Eruption	No symptoms	None
2a*	1913-14	4/10/18	10/15/18	Eruption	No symptoms	None
2b*	1913-14-18	3/28/19	9/ 3/19	Eruption	No symptoms	None
3	1912-13	11/ 2/14	1/ 8/16	Eruption	No symptoms	None
4	1912-13	11/ 9/14	10/15/18	Eruption	No symptoms	None
5	1914	5/ 9/15	7/16/15	Eruption	No symptoms	None
10	None	4/22/15	6/10/15	Eruption	No symptoms	None
13	1913-14	5/ 2/15	8/16/18	Eruption	No symptoms	None
14	1911-12-13-14	5/12/15	9/10/15	Eruption	No symptoms	None
15	1914	5/14/15	11/13/16	Eruption	No symptoms	None
16	1914	5/17/15	7/20/15	Eruption	No symptoms	None
18	1912-13-14	6/ 3/15	6/18/16	Eruption	No symptoms	None
19	1912-13-14	6/ 7/15	9/17/15	Eruption	No symptoms	None
21	Many	7/21/15	11/ 3/15	Eruption	No symptoms	None
22	1914	8/ 5/15	1/ 9/17	Eruption	No symptoms	None
22a*	1914-15	6/16/17	7/13/18	Eruption	No symptoms	None
28	.....	6/25/17	10/15/18	Eruption	No symptoms	None
29	None	9/ 7/15	4/ 7/16	Eruption	No symptoms	None
42	1914	6/19/16	10/ 8/16	Eruption	No symptoms	None
42a*	1914-16	5/ 4/17	9/16/17	Eruption	No symptoms	None
44	None	6/26/16	10/ 4/16	Eruption	No symptoms	None
45	None	6/29/16	10/ 7/16	Eruption	No symptoms	None
46	1915	8/ 5/16	10/ 4/16	Eruption	No symptoms	None
53	1916	5/31/17	6/ 1/18	Eruption	No symptoms	None
54	None	5/31/17	1/ 1/18	Eruption	No symptoms	None
54a*	1917	7/16/18	9/16/18	Eruption	No symptoms	None
55	None	6/ 9/17	9/20/17	Eruption	No symptoms	None
57	1916	6/16/17	8/29/17	Eruption	No symptoms	None
58	None	6/21/17	8/15/18	Eruption	No symptoms	None
59	None	6/21/17	8/15/18	Eruption	No symptoms	None
63	1911-12-13-14-15-16	8/15/17	10/10/17	Eruption	No symptoms	None
65	None	8/30/17	9/24/17	Eruption	No symptoms	None
67	1913	8/31/17	10/15/18	Eruption	No symptoms	None
68	1915-16	9/14/17	10/15/17	Eruption	No symptoms	None
69	None	9/23/17	6/ 1/18	Eruption	No symptoms	None
75	1916	3/21/18	6/ 1/18	Eruption	No symptoms	None
76	1916-17	4/17/18	10/15/18	Eruption	No symptoms	None
79	.....	5/ 7/18	10/15/18	Eruption	No symptoms	None
80	None	5/ 9/18	9/16/18	Eruption	No symptoms	None
82	None	5/23/18	9/18/18	Eruption	No symptoms	None
83	None	5/31/18	9/21/18	Eruption	No symptoms	None
84	None	6/ 6/18	7/29/18	Eruption	No symptoms	None
85	1917	6/ 6/18	9/18/18	Eruption	No symptoms	None
86	None	6/18/18	7/13/18	Eruption	No symptoms	None
87	None	6/24/18	9/ 1/18	Eruption	No symptoms	None
88	None	6/25/18	9/16/18	Eruption	No symptoms	None
89	.....	6/29/18	10/15/18	Eruption	No symptoms	None
90	1917	7/16/18	10/15/18	Eruption	No symptoms	None
93	1917	7/25/18	8/28/18	Eruption	Improved	None
94	None	7/30/18	9/ 1/18	Eruption	No symptoms	None
95	None	8/ 2/18	10/15/18	Eruption	No symptoms	None
96	1917 and 1919	6/ 8/20	7/10/20	Eruption	No symptoms	None
97	1917-18	4/25/19	6/21/19	Eruption	No symptoms	None

* Readmission.

To summarize: Of the forty-eight patients who had attacks prior to the one for which admitted to treatment, forty-four (91.6 per cent.) had had regular annual recurrences up to the time of admission to treatment in the outpatient clinic. Of this group, fifteen patients passed the first anniversary, three of whom passed also the second, two the third, and one the fourth, making in all twenty-five chances for seasonal recurrences while under treatment. In the light of their own previous experience, it would seem to follow that, in the absence of some protective factor, 91.6 per cent., or twenty-two recurrences, might properly have been expected to develop in these patients during the period of treatment. The fact that, on the contrary, none showed evidence of a return attack, points to the supplemental meal, the single outstanding modification in their hygiene, as that protective factor.

This view is further strengthened when we consider the course taken by Cases 2, 2a, 2b, 3, 18, 23, 23a, 42, 42a, 54 and 54a subsequent to the discontinuance of the supplemental dinner:

CASE 2.—A white woman, aged 34, was admitted to treatment, Nov. 2, 1914, with a first consecutive annual recurrent attack, and continued under treatment until Aug. 4, 1917, at which time she was discharged free of pellagrous symptoms and in good general physical condition. Her symptoms had disappeared within a few weeks after admission, and she remained well throughout 1915, 1916 and at least to Aug. 4, 1917. But on April 10, 1918, approximately eight months from date of discontinuance of the dinner, she was readmitted (as Case 2a) with a pronounced attack of pellagra and was again discharged free from symptoms, Oct. 15, 1918. May 28, 1919, approximately seven months from the date of the second discharge, she was again admitted (as Case 2b) with a definite attack, and finally discharged in good physical condition, Sept. 3, 1919, at which time she passed from observation.

CASE 3.—A white woman, aged 35, was admitted to treatment, Nov. 2, 1914, with a third consecutive annual recurrent attack, and discharged, Jan. 8, 1916, in good condition. She showed no evidence of a recurrence in 1915, and there is no record of a recurrence in 1916. However, during the spring of 1917, in connection with field studies of pellagra prevalence, she was seen with a definite attack of pellagra for which she was later admitted to the hospital as a bed patient.

CASE 18.—A white man, aged 44, was admitted, June 3, 1915, with a fourth consecutive annual recurrence, and was discharged in good condition, June 18, 1916. He showed no evidence of a return during the one year and fifteen days he was in attendance at the clinic; early in February, 1917, however, he developed a severe attack, approximately eight months after discharge, and was admitted to the hospital as a bed patient.

CASE 23.—A white woman, aged 22, was admitted, Aug. 5, 1915, with a first consecutive annual recurrent attack and discharged in good condition, Jan. 9, 1917. She showed no evidence of a recurrence during 1916, but was readmitted (as Case 23a), June 16, 1917, approximately five months from the date of discharge, with a well developed attack, and was finally discharged in good condition, July 13, 1918.

CASE 42.—A white girl, aged 12 years, was admitted, June 19, 1916, with a recurrence of a 1914 attack, and discharged free of symptoms, Oct. 8, 1916. She was again admitted (as Case 42a), May 4, 1917, approximately seven months from the date of discharge, with a definite recurrence, and was finally discharged, Sept. 16, 1917, in good physical condition.

CASE 54.—A white girl, aged 2 years, was admitted, May 31, 1917, with a first attack, and was discharged in good condition, Jan. 1, 1918. She was again admitted (as Case 54a), July 16, 1918, approximately six months from the date of discharge, and was finally discharged in good condition, Sept. 16, 1918.

It should be noted in this connection that the foregoing cases do not necessarily indicate the total recurrences after discharge from the clinic. It was not practicable to follow up these patients, and the cases cited are merely those that happened to return for treatment or for other reasons after the recurrences had developed. It is believed that many were able to prevent recurrences by a practical application of the knowledge of the value of diet in the treatment and prevention of pellagra which they had acquired while in attendance at the clinic.

In addition to emphasizing the influence of the supplemental meal on the prevention of pellagra, the

records of the foregoing cases are of interest also in that they indicate in a general way, under the prevailing conditions, the limits of the deprivation period or the time required to bring about a recurrence of an attack of pellagra after the patient reverts to the former dietary customs and habits. With the exception of Case 3, whose record is incomplete, a period of from five to eight months intervened between the date of discharge and the date of the subsequent admission. The apparent deprivation period roughly indicated in this group of cases is considerably longer than is observed under ordinary conditions in pellagrous communities or pellagrous households in this section. There are several factors that may, and in all probability did, operate to prolong this period in the patients under consideration, beyond the minimal limits. In the first place, the date of readmission does not represent the date of development of the attack; in most instances the attack was well established before readmission, which would reduce this apparent period by one or more weeks. Secondly, each patient left the clinic on completion of treatment in good physical condition with, it is believed, a greater amount of reserve strength and energy than is ordinarily found among people of the same economic standing and dietary customs. This, it is believed, would tend to prolong to a certain degree the period of deprivation. Thirdly, it is more than probable that some of these patients kept up, to a greater or less extent and for varying periods of time, one or more of the items of food included in the meal furnished them at the clinic, thus tending to lessen in corresponding measure the degree of severity of the deprivation and, accordingly, to prolong the period before symptoms developed.

A fourth factor that must be taken into consideration is the date of discharge. On account of the seasonal variation in the availability of certain essential foodstuffs in this locality, the particular time of year in which discharge takes place would influence, one way or the other, the time required to develop a fresh attack. For instance, a patient discharged during the late summer or fall months would find a relatively plentiful supply of fresh vegetables, meats and poultry, while one discharged during the late winter or spring months would find a relative scarcity of these products. Since virtually all of these patients were discharged during the former period, these conditions may have contributed to prolong the period between discharge from the clinic to return of another attack.

It is of interest to note that, while the deprivation period suggested by the behavior of these patients is in all probability somewhat longer than that occurring under ordinary conditions in the same locality (from three to four months), it more closely approximates the period (from five to six months), observed by Goldberger and Wheeler[2] in the experimentally induced (primary) cases in male convicts. Their subjects had been well fed previously and had, therefore, a good reserve or nutritional background at the time of the beginning of the experiment.

In closing, it may be observed that the results here reported, pointing to the preventability of pellagra by diet, are in harmony with and confirmatory of the results of the preventive feeding in institutions reported by Goldberger, Waring and Willets,[3] in 1915.

2. Goldberger and Wheeler: The Experimental Production of Pellagra in Human Subjects by Means of Diet, Bull. 120, Hyg. Lab., U. S. P. H. S., February, 1920.
3. Goldberger, Waring and Willets: Pub. Health Rep. 30: 3117-3131 (Oct. 22) 1915.

SUMMARY AND CONCLUSIONS

1. Fifty-four definite cases of pellagra (including five readmissions) were treated at an outpatient clinic of the U. S. Pellagra Hospital, Spartanburg, S. C., by means of one supplemental daily, midday meal of fresh meat, milk, vegetables, fruit, bread and butter.

2. The patients were, for the most part, cotton-mill operatives residing near the hospital. All were ambulant cases of a moderate degree of severity. There were no significant changes in domestic environment or personal habits in other respects.

3. The eruption and, with one exception, the subjective symptoms disappeared within a few weeks after admission; there was no evidence of a recurrence while in attendance at the clinic.

4. Of a total of forty-eight anniversaries passed by this group of patients from the time of their first attacks to the date of admission to treatment, there had been forty-four (91.6 per cent.) regular, consecutive annual recurrences, while of a total of twenty-five anniversaries passed under treatment there was not a single recurrence.

5. Within from five to eight months after discharge from treatment, seven patients developed recurrent attacks, five of whom had had regular annual recurrences prior to treatment and had passed one or more anniversaries under treatment without return of symptoms. A deprivation period of less than five months is indicated.

6. One supplemental meal of fresh meat, milk, vegetables, fruit, bread (either wheat bread or corn bread) and butter was adequate to relieve the symptoms and to prevent recurrence in cases of pellagra of moderate severity in patients continuing in the environment in which the disease had originally developed or had previously recurred.

PRESYSTOLIC MURMURS IN RAPID HEARTS SIMULATING MURMUR OF MITRAL STENOSIS

WITH REPORT OF NECROPSIES

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DETROIT

In this note we record observations on patients in whom there were heard murmurs similar to those of mitral stenosis, in whose hearts at necropsy no narrowing of the mitral valve was found. The recognition of such cases is important in the proper interpretation of physical signs and in the diagnosis of disturbances of the heart, and also is of theoretical interest in the determination of the actual time incidence and mechanism of production of the crescendo or rumbling murmur and thrill of mitral stenosis which terminate in a sharp or snappy first sound and have been commonly called presystolic in time. For brevity, we shall conform to the usual designation of this murmur as presystolic, although we feel that the views formulated by Reid[1] in his recent papers, in which he maintains that the murmur is really early systolic in time, are worthy of serious consideration.

1. Reid, W. D.: The First Heart Sound and the Presystolic Murmur, J. A. M. A. 76: 432 (Feb. 12) 1921; The So-Called Presystolic Murmur, ibid. 77: 1648 (Nov. 19) 1921.

Presystolic crescendo murmurs are heard in aortic regurgitation (Flint murmur) in perhaps one half of the cases (Thayer) and sometimes in adherent pericardium, as well as in certain cases of cardiac hypertrophy with hypertension, to which we shall refer later. These conditions are associated with hypertrophy of the left ventricle, and furnish instances of presystolic murmurs in large hearts. Sewall [2] called attention to the occurrence of presystolic murmurs in hearts of normal size without valvular disease, usually with accelerated heart action.

Failure properly to interpret such murmurs must lead to confusion in diagnosis with cases of true mitral stenosis. Morris and Friedlander [3] described a presystolic apical thrill in hearts of soldiers in whom there was no other evidence of cardiac disease, and laid stress on the necessity of a careful investigation of history and physical examination before such men were discharged with a diagnosis of mitral stenosis as unfit for service. Rapid and forceful heart action following exertion was commonly noted in soldiers in the presence of, or following, infections, and also in the group described by the term effort syndrome, or neurocirculatory asthenia. In some of these the presystolic thrills and murmurs led to an erroneous diagnosis of mitral stenosis. Many such cases are to be found in civil life from which the soldiers were drawn, but here the ordinary conditions of life are less likely to occasion the strain necessary to make evident the characteristic symptoms. White [4] has recently emphasized the need of more accurate differential diagnosis between heart disease and the effort syndrome and allied conditions in young people, especially young women.

The opportunity to examine such hearts postmortem has been rare, and it is for this reason that the following three cases, in which the necropsy showed the valves, particularly the mitral, normal in two cases, and without mitral narrowing in all three, are reported. A fourth case in which the presystolic murmur was noted in a large heart without mitral narrowing is added.

REPORT OF CASES

CASE 1.—C. H., aged 28, private, infantry, who had served two months, unmarried, farmer, was sent to the hospital, Jan. 16, 1918, because of dyspnea, dizziness and fainting spells, and griping pain in the region of the heart on exertion. These symptoms prevented his doing double time and drilling. He denied rheumatism and venereal disease, and did not drink. He had suffered from his present symptoms for some years, and two years before had had a nervous breakdown referred to the excessive use of tobacco.

The patient was slightly under medium size, but well developed and nourished. The general examination disclosed nothing abnormal. Cardiovascular examination revealed the apex impulse in the fifth interspace. The right border of dulness was at the border of the sternum; the left, in the fifth interspace 9 cm. (3½ inches) from the midsternum. There was a definite, rather short, presystolic murmur, but no thrill at the apex. No abnormal pulsations or accentuations were present. The blood pressure was: systolic, 130; diastolic, 74. There was no arrhythmia. The pulse rate, standing, was 94; recumbent, 88; after exercise, 104, rapidly returning to normal.

A week after entering the hospital the patient developed measles, which was followed by a suppurative pleurisy, general peritonitis and septicemia. He died, Feb. 8, 1918.

Necropsy demonstrated right suppurative pleurisy, multiple abscesses of both lobes of the right lung, and bilateral purulent bronchitis, all of recent origin. The heart was normal in size and the valves were normal in every way.

In this case a diagnosis of stenosis of the mitral valve had been made because of a constant and definite rolling murmur, apparently presystolic in time, together with a proved marked limitation of cardiac response, but at necropsy no valvular or other cardiac lesion was found.

CASE 2.—H. B. J., aged 21, private, unmarried, automobile mechanic, who had served four months, entered the hospital, Jan. 24, 1918, with symptoms of cough, weakness and pain in the chest. He had previously had measles, mumps, whooping cough, chickenpox, scarlet fever and pneumonia. For the last two years he had suffered from dyspnea, exhaustion and pain in the heart after exertion, and this had prevented his drilling or taking violent exercise while in the army. He suffered from "lung trouble" eighteen months before, and had had attacks of pleurisy ever since.

The patient was well nourished and of medium build. The lungs showed slight dulness at the right apex, with moist râles and friction in the right axilla and at the right base. A diagnosis of tuberculosis, chronic, right upper lobe, and pleurisy was made on these findings. Cardiovascular examination revealed the apex impulse in the fifth interspace, with the left border of dulness 9 cm. (3½ inches) to the left of the midsternum and the right border at the right sternal margin. The pulmonic second sound was accentuated. There were no thrills or pulsations. A short presystolic murmur was heard at the apex. The pulse rate, standing, was 120; recumbent, 112. Exercise was intentionally omitted because of the pulmonary condition, there was no arrhythmia. The roentgen-ray examination disclosed a normal sized heart and peribronchial thickening in the right lung. In view of the attendant pulmonary signs, and with the former case in mind, a diagnosis of valvular heart disease, which was seriously considered, was deferred.

About February 15, the patient developed a right serofibrinous pleural effusion with high fever. The fluid was removed by aspiration. He died suddenly, February 26. Necropsy revealed that the heart and all the valves were normal. The lungs showed chronic abscess of the right upper lobe, with bronchiectasis of the right lung, acute bronchitis of both lungs and right serofibrinous streptococcal pleurisy.

CASE 3.—E. C., aged 22, private, unmarried, farmer, had had measles at the age of 8, and smallpox at 16. He stated that he had had no recent illness and was in good health on entering the service. In November, 1917, he contracted a cold with acute bronchitis, and finally a diagnosis of tuberculosis was made, though the sputum was negative and the pulmonary signs were indefinite. His symptoms were cough, fever, pain in the precordium, dyspnea, weakness and palpitation.

Besides the lung findings, the heart presented the following signs, on which a diagnosis of valvular heart disease was made: apex impulse in the fifth space 7.5 cm. (3 inches) from the midsternum; presystolic thrill at the apex; borders of dulness, 10.5 cm. (4⅛ inches) to the left and 3 cm. (1⅜ inches) to the right of the midsternum; presystolic rolling murmur and blowing systolic murmur at the apex; marked accentuation of the pulmonary second sound. The pulse rate, standing, was 96; dorsal, 94; after exercise, 132; two minutes later, 100. There were no arrhythmias. Roentgen-ray examination revealed a heart enlarged in the auricular region only.

While still under observation, the patient developed tuberculous meningitis and miliary tuberculosis, and died, May 8.

Necropsy revealed tuberculous meningitis, miliary tuberculosis of the lungs, spleen and kidneys, and tuberculosis of the right and the left bronchial lymph nodes, and of both seminal vesicles. The heart was normal in size, and the valves were not stenosed. There were, however, two small nodules on the auricular surface of the anterior leaflet of the mitral valve, about 2 mm. (1/12 inch) in diameter, one of which was ulcerated. Both were well removed from the line of closure. Sections of these nodules demonstrated that they were tubercles. The diagnosis in this patient was carefully considered in view of the findings in previous cases; and, while the murmur was not as loud as is often found in mitral stenosis, it was accompanied by a thrill and accentuated pulmonary second sound.

2. Sewall: Am. J. M. Sc. 138:19, 1909.
3. Morris, R. S., and Friedlander, Alfred: The Significance of Presystolic Thrills in the Examination of Soldiers, J. A. M. A. 71:375 (Aug. 3) 1918.
4. White, P. D.: The Diagnosis of Heart Disease in Young People, J. A. M. A. 74:580 (Feb. 28) 1920.

PRESYSTOLIC MURMURS IN LARGE HEARTS

Case 4 illustrates the occurrence of a presystolic murmur and thrill in large hearts without organic valvular defect, as pointed out by Phear,[5] Cabot [6] and others, and recently discussed by Reid.[7] Such murmurs are occasionally noted in large hearts with hypertension and beginning dilatation, and decrease in intensity or disappear with decrease in the hypertension and the return of the heart to more normal function after rest in bed.

CASE 4.—A colored woman, aged 30, entered the hospital, Nov. 7, 1921, with symptoms of dyspnea, cough, generalized edema and precordial pain of four weeks' duration. On account of a well marked presystolic apical murmur and thrill, and systolic murmur, a diagnosis of mitral stenosis and regurgitation with failing compensation had been made. The left border of the heart was 17.5 cm. (6¾ inches) to the left of the midsternal line at the fifth interspace; the right border of dulness, 2 cm. (¾ inch) to the right of the sternum. The apex beat was heaving, and was felt best in the fifth and sixth interspaces in the anterior axillary line. A presystolic thrill and presystolic rumbling murmur were heard at the apex, followed by a soft systolic murmur. The second aortic sound was accentuated; there was no evidence of aortic regurgitation. The blood pressure was: systolic, 180; diastolic, 122; the pulse was regular, 100 a minute. An electrocardiagram showed evidence of a large heart with left ventricular preponderance and probable degenerative changes. Fluoroscopic examination, November 10, showed enlargement of both the right and the left heart; there was no dilatation of the aorta. The urine contained albumin and casts. The Wassermann reaction was negative. The phenolsulphonephthalein output was 52.5 per cent. in two hours.

Ten days later the patient was much improved, although there was still some edema and dyspnea. The left border of heart dulness was unchanged. The presystolic murmur was not heard; the soft systolic murmur persisted; the second sounds at the base were accentuated. The presystolic murmur was interpreted as a murmur occurring in a large heart, with dilatation of the left ventricle, and as not indicative of mitral stenosis. The patient continued to improve; the edema disappeared. The precordial pain complained of on admission became more severe each night, however, and radiated to the left side of the neck and the shoulder. The patient was found dead in bed during the night of December 20.

The necropsy disclosed a large heart (790 gm., or 28 ounces), with greatly thickened left ventricular wall with no mitral or tricuspid narrowing. The aortic valves were intact; there was slight sclerosis of the coronary arteries; extensive sclerosis of the thoracic and abdominal aorta; chronic diffuse nephritis; an old fibrous pericarditis without adhesions, and an old healed infarct near the apex of the ventricle.

5. Phear: Lancet **2**:716, 1895.
6. Cabot: Physical Diagnosis, Ed. 5, 1912, p. 217.
7. Reid, W. D. (Footnote 1, first reference).

Hookworm Disease.—People who live in the country, away from sewerage and work in the soil, suffer from uncinariasis more frequently than city residents. Those who go barefoot, or in other ways allow the skin to come in contact with polluted soil show a high percentage of infection. In Porto Rico, King and Ashford reported that probably 90 per cent. of the rural population was infected. Stiles estimates that more than one third of the rural population of the South is infected. Examination of the students of some of our state colleges, representing the best families in the state, and many of the student residents of towns, showed an infection of 33⅓ per cent. Drs. Stiles, Lindeman and Helms inspected 1,306 schoolchildren in Florida and estimated that 55.5 per cent. were infected. Dr. Perry of the Alabama Health Department examined 1,000 families in Sale County, and found one third infected.—J. A. Ferrell, *Hookworm Disease.*

SEQUELS OF ACUTE EPIDEMIC ENCEPHALITIS

A STUDY OF NINETY-TWO CASES FROM ONE TO THREE YEARS AFTER RECOVERY *

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As a result of the reexamination of eighty-nine patients who had recovered from an acute attack of epidemic encephalitis from six to twenty-four months before,[1] this tentative prognosis was offered:

1. Probably less than 20 per cent. of the patients who become ill with acute epidemic encephalitis die during the acute stage of their illness, as only the most severe cases as a rule reach the hospital.

2. Of those who survive the acute stage, about 10 per cent. may develop a progressive disease of the central nervous system.

3. The remainder will make a good functional recovery in from six to twenty-four months after the acute infection, with the probability of progressive approach to the normal after that period.

Unfortunately, this rather hopeful outlook on the outcome of the disease has not been substantiated by further observation of these patients. Reexamination of many of these patients, as well as others who have come under our care within the last year, emphasizes the importance of allowing time to play its part in the evolution of disease processes before ultimate conclusions can be formulated. This additional report is based on the findings noted in the reexamination of ninety-two patients who had survived the acute stage of epidemic encephalitis from one to three years prior to this examination.

Most of these cases were taken from the neurologic service of the Mount Sinai Hospital. A few were studied on the neurologic service of the Montefiore Hospital for Chronic Diseases. Among the ninety-two patients there were twenty-five who were observed three years after their acute illness, forty-seven patients two years, and twenty patients one year. Of the seventy-two patients in the first and second groups, forty-eight patients, in addition to seventeen of the twenty in the third group, have been under our continuous observation since their recovery from the acute illness.

Among the ninety-two cases, there were ten patients who had recovered completely at the time they were reexamined in December, 1921. These patients had no definite complaints, nor did they show any evidence of damage to the central or peripheral nervous system. In three of these patients three years, in six two years, and in one patient, one year had elapsed since their acute illness.

There were fourteen others who had recovered sufficiently to permit them to return to their work. Six of these patients were in the three year group, six others were in the two year group, and two were in the one year group. Among these fourteen patients there were four who showed only facial asymmetry. Six showed facial asymmetry in addition to other

* From the Neurological Service of the Mount Sinai Hospital.
*Read before the Association for Research in Nervous and Mental Diseases, Dec. 28, 1921.

1. Grossman, Morris: Late Results in Epidemic Encephalitis, Arch. Neurol. & Psychiat. **5**:580 (May) 1921.

residual signs pointing to their cranial nerves. The remaining four patients showed disturbed cranial nerve innervation and a spontaneous tremor of the tongue, facial muscles or the extremities. All but one of these patients still complained of psychic disturbances, such as insomnia, irritability, depression or headache. Two of them were afraid to stay in the house alone.

In two patients the physical findings have remained stationary since their examination one year ago. Four others, although still far from being well, have shown some improvement since their last examination. One of these patients still shows bilateral pyramidal tract involvement, and difficulty in swallowing fluids. This patient had complete paralysis of the tongue throughout her entire stay in the hospital, a period of more than two months. Two patients in this group still have unequal pupils, with sluggish reactions to light, and in addition they have a spontaneous tremor in the right hand. The fourth patient shows partial ptosis of one lid, speaks in a monotonous voice, and has a spontaneous tremor of the paralysis agitans type in both hands.

The remaining sixty-two patients all showed at the time of their examination a serious and more or less progressive involvement of the central nervous system. Forty-two of the sixty-two presented a clinical picture which closely resembled that of paralysis agitans. On account of the marked similarity in the clinical pictures of these forty-two patients, they can be most conveniently studied as a group. The remaining twenty patients will therefore be discussed separately as a second group of progressive cases.

FORTY-TWO PATIENTS OF THE PARALYSIS AGITANS TYPE

In this group of forty-two patients, there were twenty-three males and nineteen females. Three were below 10 years of age; nine between the ages of 11 and 20; fifteen between 21 and 30 years; eight between 31 and 40, and seven between the ages of 41 and 50 years. The youngest patient was 7 and the oldest was 50 years of age. Twenty-seven were below 30 years of age.

TIME OF ONSET FOLLOWING THE ACUTE ILLNESS

An attempt was made to establish the length of time that had elapsed between the acute illness and the onset of the paralysis agitans syndrome. It was impossible to establish definitely any precise interval in a sufficient number of cases to warrant drawing any conclusions on this point. Most of the patients stated that the symptoms had come on so insiduously, and that the progression was so gradual, that they could not be sure of a definite time of onset. In a few patients, however, a definite period of freedom from symptoms was noted. This varied from four months up to one year. The earliest symptoms noticed by many of the patients were easy fatigability, and increasing weakness in the extremities. Others first noticed stiffness in the extremities, while a few others did not notice anything until a tremor appeared. A striking fact was that in some of our patients, in whom during the acute stage of their illness a most intense picture of the paralysis agitans syndrome was noted, there was no evidence pointing to involvement of the basal ganglions when reexamined from two to three years later.

RESIDUAL SYMPTOMS

Cranial Nerves.—Among the cranial nerves, the facial was found to be the one most frequently involved. Twelve patients showed bilateral facial weakness, and fifteen others unilateral involvement. This weakness was always of the supranuclear type. Of nine patients showing weakness of their external rectus muscles, both recti were affected in three, and one rectus in six. Weakness of the internal rectus muscle was noted in four patients. Partial ptosis was present in five cases. One patient had an almost complete bilateral external ophthalmoplegia. Two showed nystagmoid movements of the eyeball in the horizontal planes. Two other patients had a tic-like twitching in the muscles supplied by one or two branches of the facial nerves. One patient had atrophy and fibrillary tremor of the tongue; another showed deviation of the uvula to the right, and still another had diminution of the movement of the soft palate on the right side.

Pupils.—These were unequal in seventeen patients. In four of these, the reaction to light was sluggish in both eyes. In three others one pupil failed to react, while the other pupil reacted sluggishly to light. In two patients there was a bilateral Argyll Robertson pupil. Two showed marked irregularity in the outline of their pupils. One patient had pupils that reacted to light but did not respond on convergence.

Nervous Disturbances.—All of the patients showed the typical immobile expressionless facies seen in paralysis agitans. In these patients, however, the response on laughing seemed to overcome this facial immobility more easily and more completely than it does in true paralysis agitans. Thirty-six patients showed some disturbance in the attitude of either the head, the trunk or the extremities. These parts were usually held rigid and pushed forward. The upper extremities were usually partly flexed at the elbow and wrists. The fingers were held closely together, with the thumb slightly adducted, giving the appearance of the accoucheur's hand. Many of the patients with this attitude of the hands showed a slight atrophy in the thenar group and of the interosseous muscles. In thirty-two patients the gait was like that of paralysis agitans. In six others, it resembled the hemiplegic gait. Propulsion and retropulsion were demonstrable in a number of these patients. The speech in thirty-two patients was slow, deliberate and monotonous in character. A spontaneous tremor of the paralysis agitans type was present in thirty-seven patients. It was restricted to the head, the tongue, the facial muscles or the extremities in most of the cases. There was some variation in the rhythm, rate and amplitude of movement in some of these tremors, but not more than would be found in a similar group of cases of true paralysis agitans. Two patients had, in addition, an ataxic tremor of the intentional type, in both arms. Thirty-eight patients showed disturbance in the associated movements of the arms when they walked. In twenty-six of them both arms were affected, and in twelve only one arm was involved. Muscle tonus was increased in thirty cases. In ten of these there was definite increase without the cog-wheel phenomenon, and in twenty the cog-wheel phenomenon was elicited.

Superficial, Deep and Abnormal Reflexes.—The superficial reflexes were disturbed in thirty-three cases. In twenty of these patients they were greatly increased in their activity, in eleven others moder-

ately increased, and in two patients they were more active on one side than on the other. The deep reflexes were disturbed in thirty-five of the cases. In eleven patients they were extremely active on both sides, while in nine others they were moderately increased. In thirteen patients the deep reflexes were more active on one side than on the other. In two patients the ankle jerk could not be elicited on one side. A definite Babinski response was obtained in seven cases. It was present on both sides in one patient, and on one side only in the other six. The abdominal reflexes in these seven patients were all hyperactive.

Disturbance in Autonomic Functions.—Many of the patients showed some disturbance in their autonomic functions. Their hands and feet were blue and felt cold. Drooling of saliva was present in eight patients. Many of them had flushed, sweaty faces that appeared greasy. One patient had an intense vasomotor reaction on the face, neck and chest whenever she became the least bit excited. Excessive local sweating was present in many of the patients. One patient had increasing difficulty in starting the urinary stream. Another patient had intense sexual desire, but found his power very much diminished. Several patients had wide palpebral fissures. Exophthalmos was noted in a few cases.

Psychic Disturbances.—Many forms of psychic disturbances were noted among these patients. Psychoneurosis, fear and compulsion neurosis, anxiety states, and hysterical exaggeration of symptoms were frequently found. Fifteen of the patients still complained of insomnia, and many others had difficulty in falling asleep. Most of these patients still complained of drowsiness during the day. Seven patients were despondent and complained of marked depression, and stated that they had lost interest in current events. Failing memory, especially for recent events, was a common complaint. When they read they found it difficult to concentrate, and they soon forgot what they had been reading about. Others were irritable, and worried a great deal about their illness. Many complained of morbid fears. Most of the patients seemed to dread the night. Functional exaggeration of symptoms was occasionally evident. A number showed marked fear neuroses. These fears were due mainly to the fact that their condition seemed to be getting progressively worse, or did not show any tendency to improve. Two patients were afraid to stay in the house alone. One of these stated that she was afraid of burglars, while the other did not know definitely what she was afraid of when alone. Another patient was afraid to ride in an automobile, train, or street car, because she feared it would get beyond control and go too fast. The thought of this possibility would make her sick when she entered a car. Another patient could not control his thoughts, which were always of some calamity overtaking him. One patient showed a typical hypomanic state, extremely active, and always in some difficulty with the other children in the ward. Another patient, a man of 22, could not concentrate on anything he did. He could not overcome the impulse to steal when it overtook him. He was apprehended and convicted for stealing letters from a letter box, but was released on parole. He realized the gravity of his offense, and the moral wrong, but stated that he took things on the impulse of the moment because he was unable to control his actions at that time.

Progression.—Most of the patients felt that their symptoms were progressively growing worse. Whether this apparent progression in their symptoms was due to an increased involvement of the central nervous system by the pathologic process, or whether it was due to a psychic demoralization of the patient, could not be definitely determined at this time. It is most probable that both factors are in part responsible. Any form of treatment, medicinal, mechanical or psychic, seems to produce temporary improvement in some of their symptoms. The physical signs, however, seem to remain stationary, or slowly tend to become more intense.

Other Progressive Cases.—The remaining twenty patients all showed some progression in their symptoms or physical signs when compared with their status of last year. In eight of these patients the pupils were unequal. The pupils reacted sluggishly on both sides in five patients, and in one pupil in one other patient. One patient showed sluggish and incomplete reactions to both light and convergence. Fifteen patients showed slight weakness in facial innervation. Weakness of the external rectus muscle was present in three cases. Internal rectus muscle weakness was also present in three others. One patient had weakness of the inferior rectus muscle. Another showed almost complete bilateral external ophthalmoplegia. Unilateral ptosis was present in three patients, and bilateral ptosis was present in one other. One patient showed atrophy and fibrillary tremor in the facial muscles on one side, and another patient showed deviation of the uvula to the right.

Associated movements of the upper extremity were diminished or lost in four cases. Two showed increased muscle tonus. Eleven patients had tremor of the facial muscles or the extremities. The abdominal reflexes were hyperactive in seven patients, and absent in two others. The deep reflexes were unequal in five patients, and diminished in one other. A bilateral Babinski reflex was elicited in one case, and in one other patient it was present only on one side. Autonomic and psychic functions were disturbed in many of these patients. Ten complained of insomnia. One showed an extreme hypomanic state. Another patient had visual hallucinations during each night. Still another had marked depression with a feeling of inadequacy which led to persistent ideas of suicide. Nearly all of them complained of nervousness and irritability. One child had become very quarrelsome and difficult to control. Another patient was afraid to stay in the house alone. Three patients complained of difficulty in breathing, without any pathologic condition in the lungs. One other had bilateral exophthalmos.

Three patients had choreiform and choreo-athetoid movements. In two of them the movements were not unlike those of Huntington's chorea in its early stage. One of these three patients had in addition a tossing, tic-like movement of the head. Another showed a torsion spasm of the pelvis and the right leg. His gait closely resembled that of dystonia musculorum deformans.

Another patient in this group presented a clinical picture that simulated myasthenia gravis. I had an opportunity to study three patients with this syndrome. They have formed the basis for a clinical report.[2] There were two other patients in this group who

2. Grossman, Morris: J. Nerv. & Ment. Dis. 55:33 (Jan.) 1922.

presented diffuse lesions that produced a clinical picture not unlike that of multiple sclerosis.

The large number of patients in this group showing spontaneous tremors suggests the probability that with further progress in their symptoms they will eventually require reclassification and have to be placed to the group of cases showing the paralysis agitans syndrome following encephalitis.

SUMMARY

It is obvious from the findings disclosed in the examination of these ninety-two patients that the danger from epidemic encephalitis does not pass when the patient recovers from the acute illness. Only ten of the ninety-two patients examined in this series were free from symptoms and showed no residual signs when observed from one to three years after the acute illness. Fourteen others had recovered, within this time, sufficiently to allow them to return to their work. These patients, however, still showed residual signs of their previous illness, and complained of various forms of psychic disturbances, such as insomnia, irritability, poor memory and fear neuroses. Two patients showed no change in their physical condition since their last examination one year before. Four patients showed slight improvement in their symptoms and physical signs, but were still far from being well. The remaining sixty-two patients showed a serious, more or less progressive involvement of the central nervous system which was evidenced by disturbances in the motor, psychic or autonomic functions.

Of these sixty-two patients, forty-two showed a clinical syndrome which closely resembled that seen in paralysis agitans. Almost every cardinal symptom and sign of this disease could be demonstrated in most of them. There seemed to be a few slight differences, however. On account of the rapid development of the syndrome, their emotional responses were more active than those of the average patient with paralysis agitans. They smiled more readily, and, when doing so, they seemed to overcome their facial immobility more completely and more easily. Their mental reactions were likewise more prompt. These patients were, as a rule, keenly aware of the serious nature of their illness. They worried a great deal and showed extreme anxiety as to the ultimate outcome of their disease. The relentless advance of their symptoms made them restless and irritable, and was undoubtedly the cause of the insomnia in many of them. This mental state formed a striking contrast to the resignation usually found in many of the patients suffering from true paralysis agitans in the later stages. Almost 70 per cent. of these patients were below 30 years of age. A strikingly large number of them also showed pupillary changes and residual signs pointing to cranial nerve involvement. This is an unusual finding in true paralysis agitans.

The patients who showed evidence of disease of the basal ganglions, in addition to involvement of the pyramidal tracts, form an interesting group. Barring an occasional case of disseminated sclerosis or of diffuse cerebral arterial sclerosis, encephalitis seems to be the one disease that shows most frequently lesions involving the basal ganglions and the pyramidal tracts. It is also well to emphasize the point that myasthenia gravis, disseminated sclerosis, Huntington's chorea and dystonia musculorum deformans may be closely simulated by epidemic encephalitis. In the present state of our knowledge, we are not warranted in establishing any definite etiologic relationship between epidemic encephalitis and paralysis agitans, multiple sclerosis, and the various other clinical types that follow encephalitis.

Another outstanding feature that was noted in the reexamination of these patients was the strikingly large number who showed increase in the activity of the abdominal reflexes. This was found to be the case in seven of the eight patients who showed definite evidence of involvements of the pyramidal tracts.

CONCLUSIONS

1. The prognosis as to the ultimate recovery from epidemic encephalitis should be a guarded one, even though the patient has recovered from the acute attack.

2. Only ten patients had fully recovered, fourteen were functionally well, two remained stationary, and four showed some improvement, among the ninety-two patients in this series examined from one to three years after recovering from the acute illness.

3. Sixty-two of the ninety-two patients showed evidence of a more or less progressive involvement of the central nervous system.

4. Of the sixty-two progressive cases, forty-two patients showed a clinical syndrome that closely resembled that of paralysis agitans.

5. Many of the well known clinical types may occur as sequels of epidemic encephalitis.

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A REVIEW OF THE CLINICAL SIGNIFICANCE OF THE WASSERMANN REACTION

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The Wassermann reaction has been before the profession for sixteen years, during which period it has enjoyed the greatest confidence. Today, however, in the light of its performance, it is passing in critical review. What has been the fate of the Wassermann reaction has been true of many other innovations and discoveries of a revolutionary character, namely, at first blind faith; then a period of grave doubt, and finally a normal and sensible appreciation of the actual value of the procedure under review.

There exist today three schools of thought relative to the clinical value of the Wassermann reaction. One group places absolute reliability in it, accepting the weakest reactions of the test, even when these are obtained by the use of the cholesterinized antigens as indicating the existence of syphilis. The second group considers the Wassermann test as a gross test. They look on this laboratory procedure as a symptom placed alongside the clinical findings, and are not dogmatically and blindly influenced by the results of the test. A third class looks on the test as liable to so many errors of omission and commission that no great dependence is placed by them on the results obtained. What, therefore, are some of the weaknesses of the Wassermann reaction used as a diagnostic measure?

SPECIFICITY OF THE WASSERMANN REACTION

(*a*) It is admitted that the Wassermann reaction is not a specific test. It has been shown repeatedly that

the pure culture of *Spirochaeta pallida* which theoretically should be the ideal antigen in the scheme of the Wassermann test, in the practical application of the test, is absolutely useless. The commonly accepted antigens today are substances extracted from either the heart, liver or other organs, either of human or of certain of the animal species. These extracts seem to do just as well when derived from the organs of normal individuals as when obtained from the organs of individuals with syphilis. It appears by almost common consent to have been accepted that, to make the antigen employed in the Wassermann reaction more sensitive, more delicate, it is advisable to add a certain amount of cholesterin to it.

When Wassermann announced this reaction, he utilized an aqueous solution of syphilitic liver as his antigen. He supposed that this antigen contained a solution of *Spirochaeta pallida*. Since that time, it has been definitely proved that the antigen Wassermann employed was not a solution of *Spirochaeta pallida* obtained from the liver of a syphilitic fetus, but an aqueous extract of liver tissue. Today we have only the shadow of the original Wassermann technic. The methods now employed have undergone so many modifications and refinements that only one element of the original Wassermann technic is retained, and that is the name: "the Wassermann reaction."

(*b*) It is admitted that up to date no one can definitely state what substance there is in the serum of a patient which causes a positive reaction. We do not know whether this substance, which we will call reagen, is due to the interaction of *Spirochaeta pallida* per se with the serum of the patient, or whether this reagen is due to an interaction between *Spirochaeta pallida* and some or all of the tissues of the individual affected with syphilis. We are still in ignorance as to whether or not the toxins produced by *Spirochaeta pallida* may be a factor in the production of the reagen. We still stand in ignorance as to the nature of the reagen, whether it is a lipoidal substance or a cholesterin-like body, or whether it belongs to the protein substances.

Henes [1] has presented evidence which seems to point to the possibility that increased cholesterin in the serum of a patient may be productive of a positive Wassermann reaction. On the other hand, Craig and Williams [2] seem to disprove by animal experimentation that increased cholesterin causes a positive reaction. They also bring the work of Denis to their support as an argument against the value of cholesterin increase in the scheme of a positive Wassermann reaction, Denis having found no increase of cholesterin in fourteen syphilitic infections. Craig and Williams fed enormous amounts of cholesterin to rabbits, and failed to produce a positive Wassermann reaction in the serum, although a determination of the cholesterin content of the rabbit serum showed a marked increase above the normal limits.

With these divergent facts before us, we can only say that the influence or value of increased cholesterin content of the serum of a patient, so far as it influences the production of a positive Wassermann test, must await further investigation. Craig and Williams seem inclined to the view that the substance of the blood serum which appears to be responsible for the positive Wassermann test is related to the globulins. These substances are known to be increased in the blood and spinal fluid of syphilitics, especially the euglobulin.

INFLUENCE OF DRUGS ON THE WASSERMANN REACTION

The world-wide use of the arsphenamin preparations in the treatment of syphilis, and the facts that in a certain perecentage of syphilitic patients the Wassermann reaction does not seem to be influenced by the intravenous injection of arsphenamin, and that many are administering arsphenamin for conditions other than syphilis either because the diagnosis is not made or because they believe that arsphenamin should be tried, because all other methods of treatment have failed, have made it important to study the effect of arsphenamin on the Wassermann reaction.

Ravaut [3] tested the effect of neo-arsphenamin on nonsyphilitic patients suffering from varied dermatologic conditions, and in 35 per cent. he was able to produce a positive Wassermann reaction. In all, he studied fourteen patients, and of these in five he was able to produce positive complement fixation following neo-arsphenamin injections. The positive Wassermann cases were: (1) angiolupoid with papulonecrotic tuberculid; (2) lupus erythematosus; (3) generalized lichen planus; (4) psoriasis, and (5) lichen planus. The number of injections in the positive group varied from three to nine injections, and the dose of neo-arsphenamin varied from 0.3 to 0.9 gm.

Without any knowledge of the work of Ravaut, I tested the effect of arsphenamin and neo-arsphenamin on the Wassermann reaction of nonsyphilitic patients suffering from varied dermatologic affections. In a contribution [4] published in 1920, it was shown that, in my series of twenty-four patients, sixteen, or 66 per cent., gave at least one positive reaction, and fourteen, or 58 per cent., gave two or more positive reactions. The greatest number of positive reactions in any one case was nine. If we consider 50 per cent. inhibition of hemolysis as indicative of syphilis, we can say that nine patients, or 38 per cent., gave + 2 or a greater degree of positive reaction.

According to the plan adopted for this work, the first Wassermann test of these patients had to be completely negative, they had to present a negative syphilitic history, and their skin affections were definitely nonsyphilitic. The ages of these patients varied from 15 to 63 years. Included in this list were patients with eczema, psoriasis, acne vulgaris, acne rosacea, purpura, sycosis vulgaris and some of the more rare skin affections. No patient received more than seven injections at weekly intervals. The usual dose of arsphenamin given in my series was 0.5 gm. If we can discard the + 1 (weakly positive) cases from our list, it can be seen that the percentage of positive Wassermann findings of my series agrees with the percentage of positive Wassermann results obtained by Ravaut.

In a study as yet unpublished, I also noted the effect of mercurials given intravenously on the Wassermann reaction. In a series of twelve patients to whom weekly intravenous injections of mercuric benzoate were given in the dose of $\frac{2}{3}$ grain (0.026 gm.) in 10 c.c. (2 $\frac{3}{4}$ fluidrams) of physiologic sodium chlorid solution, not a single instance was found in which the mercurials injected changed the Wassermann reaction

1. Henes, Edwin, Jr.: Cholesterinemia and the Wassermann Reaction, Am. J. Syph. 4: 685 (Oct.) 1920.
2. Craig, C. F., and Williams, W. C.: Am. J. Syph. 5: 392 (July) 1921.
3. Ravaut, P.: Ann. de dermat. et de syph., 1914, p. 219.
4. Strickler, Albert; Munson, H. G., and Sidlick, D. M.: A Positive Wassermann Test in Nonsyphilitic Patients After Intravenous Therapy, J. A. M. A. 75: 1488 (Nov. 27) 1920.

from negative to positive. The patients of this series suffered either from psoriasis, lichen planus or sycosis vulgaris. All of these patients, before receiving the injections, had a negative Wassermann test. These mercurial injections varied in number from eight to twenty.

Also in an unpublished study, I tested the effect of intravenous injections of sodium cacodylate on the Wassermann test of nonsyphilitic persons suffering from various skin affections, the amount of arsenic in the sodium cacodylate solution being equal to the amount of arsenic in arsphenamin. In all, eleven patients were subjected to this method of treatment. In this series, the first Wassermann test previous to receiving this remedy was completely negative. The number of injections varied from five to fourteen. A Wassermann test was made before each treatment. The result showed that, in all instances but two, the Wassermann test was not affected by these injections. The two instances in which the Wassermann reaction became positive occurred in one patient, the first positive Wassermann $+2 \pm +1$ occurring after three injections had been given, and the second positive Wassermann $+1+1+1$ occurring after the ninth injection.

INCIDENCE OF A POSITIVE REACTION IN DISEASES OR CONDITIONS OTHER THAN SYPHILIS

The most ardent advocates of the specificity of the Wassermann test admit the occurrence of a positive reaction in leprosy and yaws. There are also other conditions of disease and also temporary alterations of normal state not in itself a disease in which it is becoming more and more certain that a positive Wassermann reaction can be obtained and that this positive reaction does not mean syphilis.

Williams [5] studied the Wassermann reactions of patients with diabetes. Of a series of 337, sixteen patients gave a $+3$ or $+4$ result at one time or another during the period of their observation. These patients also gave negative and doubtful Wassermann tests. On these sixteen patients, forty-five tests were performed, and of this number twenty-two positive reactions were obtained. It was observed by Williams that "these discordant Wassermann results were obtained chiefly in young diabetics who were suffering gravely from malnutrition occasioned by the disease and in whom there was evident lipoidal disturbance." Williams observed that as the nutrition of these diabetic patients was improved by proper dietetic measures, there was a coincidental improvement in the Wassermann test, and that in each instance in which a positive Wassermann reaction was observed, the diabetes was very severe. Williams offers a number of hypotheses to explain these alternative positive and negative Wassermann results in his series of diabetic patients:

1. It is possible that the results obtained in these Wassermann tests were due to technical errors, and if that be so the results of all laboratories could be questioned as to their accuracy.

2. It is possible that these patients were syphilitic, and, if that be so, then in the absence of antisyphilitic treatment the results of the Wassermann tests should be constant and not vary from a $+4$ to a negative or a doubtful positive, for it is common experience that a positive Wassermann reaction due to syphilis remains positive unless influenced by treatment.

3. The most plausible line of reasoning which Williams suggests to explain these positive Wassermann findings rests on the fact that he observed that the positive and partial reactions occurred when these patients for a long time had been on diets far below the minimal basal metabolism, and were suffering severely from imperfect nutrition.

It is well known that, in states of low nutrition and starvation, the body frequently mobilizes large amounts of fats and lipoids. According to Williams, it is probable that the body lipoids enter into the mechanism of the Wassermann reaction and that patients suffering from the malnutrition of severe diabetes frequently exhibit marked increase in blood lipoids, cholesterin, particularly, being higher than normal. Williams also reports the history of a patient who during life gave a $+3$ Wassermann reaction. This patient came to necropsy, and in spite of a most searching histologic study of blood vessels, testes and other organs, no evidence of syphilis could be discovered.

Kilduffe,[6] in a study of the Wassermann reaction of supposedly nonsyphilitic patients, encountered three subjects suffering with diabetes, and two of these patients gave positive Wassermann reactions. In one case, several Wassermann tests were made with identical results, this patient having a high sugar content of urine and blood, with a marked acetonuria. No history of syphilis could be obtained from these patients. Williams, Henes, Doland, Kilduffe and others had at times found a positive Wassermann reaction in persons suffering from nephritis in whom no history of syphilis could be obtained. The incidence of a positive Wassermann reaction in this condition is not so high as that found in diabetes.

Numerous observers have noted the incidence of a positive Wassermann reaction during the febrile period of pneumonia and of typhus fever. Kilduffe noted that the serums of three patients suffering from pneumonia gave a positive complement fixation for syphilis, of his series of seven patients. This statement is merely the confirmation of many other similar observations. Bauer [7] studied the Wassermann reaction of fifty serums from patients suffering with typhus in whom there was no clinical evidence of syphilitic infection. During the fever, forty-six serums (92 per cent.) gave a positive Wassermann reaction. Bauer reaches the conclusions, as the result of his study, that the Wassermann test applied to the inactivated serums of typhus patients is nearly always positive, if the blood sample is taken before the crisis.

Also in malaria, there have been reported positive Wassermann findings when the sample of the blood is taken during the period of the chill. Bitroff [8] calls attention to the appearance of positive Wassermann findings in nonsyphilitics after injury or destruction of organs particularly rich in lipoids, as in cancer of the liver and tumors of the brain and spinal cord. Verdozzi and Urbani [9] have noted the incidence of positive Wassermann findings in five of twenty-six cases of chronic diseases of the liver in which there was nothing to suggest syphilis.

The incidence of a positive Wassermann reaction in pregnant women, so far as it is or it is not diagnostic of syphilitic infection, presents a problem which not

5. Williams, J. R.: A Study of the Wassermann Reaction in a Large Group of Supposedly Nonsyphilitic Individuals, Including a Large Group of Diabetics and Nephritics, Am. J. Syph. 5:284 (April) 1921.

6. Kilduffe, R. A.: Incidence of Positive Wassermann Reactions in Four Hundred and Eighty-Four Supposedly Nonsyphilitic Patients, Arch. Dermat. & Syph. 5:207 (Feb.) 1922.

7. Bauer: Deutsch. med. Wchnschr., Oct. 13, 1921.

8. Bitroff: München. med. Wchnschr., Nov. 14, 1916.

9. Verdozzi and Urbani: The Wassermann Reaction Positive in Chronic Diseases of the Liver, Policlinico 22, No. 12.

only vitally concerns the child-bearing mother but also is of vital importance to her consort and materially concerns the offspring. A clear statement as to the significance of a positive Wassermann test in pregnant women is therefore most important and vital. Falls and Moore, Cornell and Stillians were among the earliest investigators to suggest that with the cholesterinized antigen there was a possibility of the occurrence of a positive Wassermann reaction in a nonsyphilitic pregnant woman, and that this positive reaction would disappear after pregnancy had terminated and from that time on remain negative.

Fordyce and Rosen [10] report that they found that from 25 to 35 per cent. of the patients referred to them by maternity hospitals, because of a strongly positive reaction with cholesterinized antigen alone, gave a negative Wassermann reaction with all methods when they reported several weeks after delivery, and remained negative on repeated examination. Stühmer and Dreyer [11] applied Wassermann tests twice a week in their maternity cases. They had a series of 1,000 tests of parturients' serums, with 2,500 control tests of known syphilitic and nonsyphilitic serums. Their experience shows that the serum of a healthy woman may respond positively to the Wassermann test during pregnancy and childbirth. Unreliable findings were obtained in fully 10 per cent.

Certainly these various observations call for a continued study of this most important problem, and for care and caution in the interpretation of a positive Wassermann reaction in the pregnant mother. The crying need of the Wassermann technic has been the urgent necessity of standardization. This is the program of the Wassermann investigators and workers. Many experiments and much research have been conducted so as to control every factor that goes to make up the Wassermann technic. There is one factor, however, about which little or nothing has been said or done, and that one is the patient's serum. From the observations recorded in the preceding pages, it seems at least reasonably certain that, at times, conditions other than syphilis can modify the blood serum in the same way as syphilis, and thus give a positive Wassermann reaction.

Included in this category are febrile diseases due to specific organisms, certain metabolic diseases, and also pregnancy which, while not a disease, is nevertheless, for the time being, an altered metabolic state of the human economy. In this connection we may also quote the observation of Fischer [12] that a Wassermann reaction negative with 0.1 c.c. of serum frequently becomes positive with larger amounts of serum.

COMMENT

No one can deny the enormous value of the Wassermann reaction as a diagnostic procedure; but the absolute reliability placed on it has undoubtedly resulted in a considerable amount of harm. The great desire of the medical profession for certain, definite, quick diagnostic procedures has caused many to rely on the Wassermann test as a means of diagnosing syphilis, almost if not altogether to the exclusion of clinical evidence. As Hazen aptly puts it, "Entirely too much stress has been placed upon the Wassermann by the average practitioner; the old kodak advertisement has been replaced in medicine by 'the Wasserman will make the diagnosis; 606 will do the rest.'"

It is most important that the medical profession should be acquainted with some of the limitations of the Wassermann test. It should be impressed on all that the Wassermann test should be considered as a symptom and should be impartially weighed along with the other clinical evidence in making the diagnosis. Since the Wassermann is not a specific test; since we do not know what may be the substance in the serum which causes the production of a positive reaction; since it is becoming more and more suggestive that a certain drug, that some of the acute infectious processes, and also that certain metabolic disturbances can at times produce a change in the serum which will cause a positive Wassermann reaction, I feel that it is time that the profession should not attempt to diagnose syphilis on the strength of a single, weak positive reaction.

In my opinion the following should constitute the status of the clinical value of the Wassermann reaction as a diagnostic measure. (1) A negative Wassermann test in the presence of definite syphilitic lesions is a possibility in certain stages of the disease. This may occur at times in tertiary syphilis, inherited syphilis and also in certain types of neurosyphilis. (2) A positive Wassermann test in the presence of nonsyphilitic disease should not always mean syphilis. It should, however, arouse our suspicion to study our patient from every possible angle in our endeavor to explain this positive reaction. It should be borne in mind that a syphilitic patient is subject to any and all ailments that a nonsyphilitic is heir to. (3) While a strongly positive Wassermann reaction in a subject who is not suffering from any illness should cause us to investigate, nevertheless, too great stress is not to be put on it, unless this finding is confirmed by a number of reliable laboratories.

We realize the existence of asymptomatic syphilis; we feel that the too often laboratory-made diagnosis of syphilis, made on the strength of a single, weak, cholesterinized positive Wassermann test, is not to be relied on and should not brand a patient with the stigma of syphilis. While we feel the enormous value of the Wassermann reaction we should also realize that it has limitations, some of which are still hidden secrets, and we should not condemn our patients without a just trial or hearing, solely on the strength of a weak positive Wassermann reaction.

327 South Sixteenth Street.

10. Fordyce, J. A., and Rosen, Isadore: The Treatment of Antenatal and Congenital Syphilis, Arch. Dermat. & Syph. 1:1 (Jan.) 1922.
11. Stühmer and Dreyer: Ztschr. f. Geburtsh. und Gynäk., November, 1921.
12. Fischer: The Wassermann Test Applied with Larger Amounts of Serum, Deutsch. med. Wchnschr., Feb. 3, 1916.

Removal of Glass from the Rectum.—Dr. Arthur A. Landsman, New York, writes: Occasionally persons introduce into the rectum objects made of glass, which become broken and present sharp and cutting edges. To remove these when they are well beyond the reach of one's finger presents considerable difficulty, not only because of the danger to the soft parts, but because of the inability to maintain a good grip on the smooth surface. To overcome these, the following procedure may be tried: The patient is put in the knee-chest position to secure inflation of the rectum, and a two-bladed speculum is inserted and held in place by an assistant. By means of alligator forceps we carry up small squares of adhesive plaster cut to size, which are applied to the sharp edges, and readily molded over the sides of the glass. The object may then be easily grasped with any long handled forceps (ordinary placental forceps will do) and delivered without any danger of slipping or wounding the walls of the rectum.

Clinical Notes, Suggestions, and New Instruments

INSPIRATORY DYSPNEA DUE TO PARALYSIS OF THE DILATORS OF THE NARES FOLLOWING ACUTE INFECTIOUS MENINGO-ENCEPHALITIS

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The case of bilateral paralysis of the anterior and posterior "dilator naris," with consequent dyspnea on exertion, here reported, occurred in a man, aged 30, who came to Lakeside Hospital in December, 1920, suffering from an acute and severe meningo-encephalitis. A bacteriologic diagnosis was not made. Although lumbar puncture was performed eleven times, no bacteria were found in the stained sediment, and all attempts failed to recover any growth of bacteria from the spinal fluid. No bacteria grew from the patient's blood that was obtained by venipuncture, although during the early part of the illness there was a blood leukocytosis of 14,000, which consisted of an increase in the polymorphonuclear cells and led to the expectation of finding bacteria in the spinal fluid.

During the first eleven days in the hospital, lumbar puncture was performed eight times, and from 20 to 45 c.c. of clear fluid under pressure was removed each time. The largest number of cells per cubic millimeter in any of the specimens was 220, and the proportion between mononuclear and polymorphonuclear cells varied from 30:1 to 10:1. There was always a great predominance of mononuclear cells.

Although there was a liberal subarachnoid use of antimeningitis serum, the course of the disease left the impression that, if any improvement could be traced to treatment, it was due to the relief of pressure by paracentesis rather than to the injection of a specific serum. In fact, the benefit derived from evacuation of spinal fluid was not at any time decided. The fever, headache, blood leukocytosis, lymphocytosis of the spinal fluid, rigidity of the neck, increase of subarachnoid fluid, and Kernig signs indicated an active participation of the meninges; and the general cerebral signs of coma and great weakness, from which the patient slowly recovered,

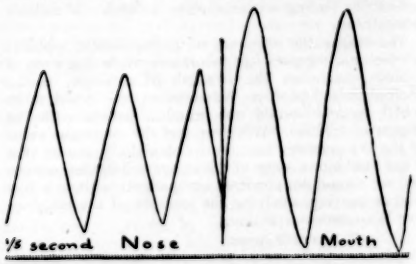

Fig. 1.—The first three are tracings of respirations made through the nose with the mouth closed. The two on the right are tracings of mouth respirations. The patient was instructed to take a moderately sharp and deep inspiration. He did not endeavor to give an exhibition of his vital capacity.

betokened a severe encephalitis. There were no focal symptoms discovered during the acute period of the illness that revealed any involvement of any cranial nerves, and with the exception of lively tendon reflexes and general weakness there were no focal signs to implicate the motor paths in any upper or lower neurons. No sensory symptoms appeared at any time during the acute or convalescent period.

When the patient recovered sufficiently in six weeks after the onset of his disease so that he could rest in a wheel chair, it was noticed that his facial mimicry was defective. There was a want of expression and a stolidity in his facial mien that suggested the masklike face which is seen in Parkinson's disease and which so commonly persists in patients after recovery from epidemic (lethargic) encephalitis. At no time, however, had we been able to demonstrate any evidences for bulbar or pontile nuclear disease, nor was there any delay in the initiation of movements, or any loss of reciprocal inhibition to slow the voluntary movements of the arms and legs. The clinical diagnosis was infectious meningo-encephalitis of unknown bacterial origin.

In February, 1922, one year after leaving the hospital, the patient came to the outpatient department seeking relief from a difficulty in breathing that invariably developed on walking rapidly or with other physical exertion. Physical examination revealed a normal vital capacity of the lungs and no signs to indicate any modifications of the volume, density or

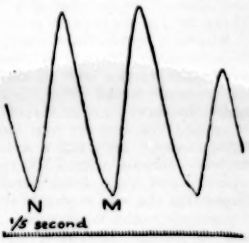

Fig. 2.—*N* traces a nasal respiration, and *M* traces a mouth respiration.

extensibility of any part of the lungs. All cardiovascular signs were normal, and the roentgen ray revealed no abnormality in the mediastinum. After treatment of some minor symptoms of the nasal mucosa, the report from the nose and throat department was that the nasopharynx and larynx were quite normal.

When the patient was presented to me for diagnosis, it was noted that the nares were slightly retracted during inspiration when the patient was seated at rest; and, when he was told to take a deep breath, the alae nasi were strongly retracted. The nostrils acted like clapper valves; with a vigorous inspiration they retracted so that there was great obstruction to the entrance of air, but forced expiration through the nostrils was unobstructed. Forced breathing through the mouth was unobstructed. On solicitation the patient could voluntarily exhibit good activity in all facial muscles excepting the dilators and compressor of the nostrils. This is not uncommon in perfectly normal persons who have a nasal conformation of the Celtic or short, retroussé type; but in the Roman type, with longer and larger alae, there must be muscular control of the nostrils if the alae are not to act as clapper valves and close with vigorous nasal inspiration. The patient said he never had had any such difficulty until he recovered sufficiently from his acute illness so that he could walk rapidly and work vigorously, and then he was greatly mystified by his shortness of breath, which caused him much discomfort and anxiety. His anxiety was relieved when he was shown that he could breathe through his nose with perfect freedom if the point of the nose was pushed upward and the alae thus held in a rigidly spread position.

To portray graphically this source of dyspnea, a gas mask used during the war was fitted over the face with one of the openings connected with the tube leading to a Benedict spirometer. The excursions of the reservoir were traced on a drum revolving at a speed of 5 mm. a second. With nose and mouth free, the patient was instructed to take short, deep breaths alternately through the nose and the mouth. Figure 1 is a tracing of such respirations. The time marker is in one-fifth second. The three inspirations on the left were through the nose with the mouth closed, and the two on the right were through the open mouth. Inspiration through the nose had a duration of eighteen-fifths seconds, and expiration fifteen-fifths seconds. Through the mouth, inspiration lasted sixteen-fifths seconds, and

expiration twenty-five-fifths seconds. Moreover, the amount of air inspired through the nose was 2,518 c.c., whereas the amount inhaled through the mouth was 2,876 c.c.

Before the tracing shown in Figure 2 was made, short segments of rubber tubing were inserted in each nostril, so that the lumen was ample and the nostrils could not collapse during inspiration. The patient was then instructed to breathe in the same manner as before, but alternately through the nose and the mouth. The tracing of the respiratory cycle marked *N* was made while he was breathing through the nose, and the tracing marked *M* while he was breathing through the mouth. The volume and duration of the inspirations and expirations are the same in both nose and mouth breathing.

The whole difficulty was simple enough to explain when the inspiratory collapse of the nostrils was noted, but until then it was equally mystifying to physicians and patient. The very strange and unusual features about this patient are the facts that recovery from severe and acute meningoencephalitis was complete with exception of the compressor and dilators of the nares, and paralysis of these small muscles of comparative insignificance was complete one year after convalescence. There may have been a bilateral paresis of the facial muscles during the acute illness, but it was not detected. There certainly was no paralysis of both facial nerves during the acute stage of the disease, and one year later all muscles supplied by the seventh pair of nerves functioned perfectly well with the exception of the dilators and compressor of the nares, but the paralysis of these muscles was complete. This is a rare clinical occurrence, and one that I have never before seen or encountered in medical literature.

REPORT OF A CASE OF NASAL HERPES DUE TO INGESTION OF PHENOLPHTHALEIN

JACOB ROSENBLOOM, M.D., PH.D., PITTSBURGH

It is now definitely known that in susceptible persons the use of phenolphthalein may produce peculiar eruptions of the skin. Abramowitz[1] was the first to call attention to this peculiar effect of phenolphthalein. Wise and Abramowitz[2] find that in susceptible persons the ingestion of phenolphthalein provokes a peculiar polychromatic eruption of the skin, with bullous, vesicular and eroded lesions of the mucosae and genitals. These lesions leave pigmented areas, persisting for months and even years. They found that the lesions "flare up" after the ingestion of the drug, usually affecting the same sites as in the preceding eruption, and they conclude that the eruption exhibits many points of similarity to those resulting from antipyrin and arsphenamin.

The case that I observed presents many interesting details: Mr. S., aged 36, complained of recurrent attacks of herpes of the nose. They occurred two or three times a month, and presented all the premonitory symptoms of this condition. They usually required from ten to fourteen days to heal, and left a deeply pigmented area after healing. A complete physical and laboratory study of the case revealed that he was in perfect physical condition except for constipation.

I thought that the condition might be due to the ingestion of some drug. The only drug he had taken for several years had been an occasional Alophen pill for constipation. The composition of this pill, as given by the makers, is: aloin, ¼ grain; pulv. strychnine, 1/60 grain; ext. belladonna leaves, 1/12 grain; pulv. ipecac, 1/15 grain; phenolphthalein, ½ grain. On two different occasions the use of one Alophen pill was followed the next day by an attack of nasal herpes. On two different occasions this pill was given but it was made up without any phenolphthalein. No herpes resulted. For more than nine months this patient has been free from any attack of nasal herpes and, of course, has not used this pill.

It is interesting that as small an amount as ½ grain (0.03 gm.) of phenolphthalein was able to produce this vesicular skin condition in a susceptible person.

5070 Jenkins Arcade.

1. Abramowitz, E. W.: Erythema Multiforme Associated with Cutaneous Pigmentation (Melanin). Clinical and Pathological Report of Five Cases, J. Cutan. Dis. **36**: 11, 1918.

2. Wise, F., and Abramowitz, E. W.: Phenolphthalein Eruptions, Arch. Dermat. & Syph. **5**: 297, 1922.

New and Nonofficial Remedies

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED AS CONFORMING TO THE RULES OF THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR ADMISSION TO NEW AND NONOFFICIAL REMEDIES. A COPY OF THE RULES ON WHICH THE COUNCIL BASES ITS ACTION WILL BE SENT ON APPLICATION.

W. A. PUCKNER, SECRETARY.

AMMONIUM ICHTHYOLATE-MEADOWS.—An aqueous solution, the important constituents of which are ammonium salts of indefinite, complex, organic acids, partaking of the nature of oxygenated bodies and sulphonates held in colloidal dispersion. It is derived from an oily distillate of a fossiliferous bitumen found in Texas.

Actions and Uses.—It is claimed that ammonium ichthyolate-Meadows has the therapeutic properties of ichthyol and that in a gelatin medium it has a penetrating power at least twice as great as that of ichthyol.

Dosage.—See Ichthyol, New and Nonofficial Remedies, 1921, p. 344.

Manufactured by Meadows Oil and Chemical Corporation, Durant, N. Y. No U. S. patent or trademark.

Ammonium ichthyolate-Meadows is a reddish-brown, viscous fluid having a peculiar, mildly bitter taste and a faint odor. It is completely soluble in water; almost completely soluble in alcohol or in alcohol-ether mixture (1: 1) with the separation of ammonium sulphate; it is miscible with glycerine and fatty vehicles.

Dissolve about 0.5 Gm. of ammonium ichthyolate-Meadows in 100 Cc. of warm water; transfer to a clean, stoppered cylinder and allow to stand for a few hours. No free oil should appear on the surface of the solution, no precipitate should form, and the solution should be perfectly clear.

Dry about 1 Gm. of ammonium ichthyolate-Meadows, accurately weighed, in a watch glass to constant weight at 105 C. The loss in weight should not exceed 50 per cent. Reduce the dried drug to a fine powder and transfer about 0.5 Gm., accurately weighed, to a dry Pennock and Martin's nickel crucible. Add about 9 Gm. of sodium peroxide (sulphur free) and mix thoroughly. Dip the crucible with stand and cover about half-way in a beaker of cold distilled water. Ignite the mixture by thrusting a red-hot iron wire through the opening in the cover of the crucible. A few minutes after combustion has taken place, tip the crucible over and allow the fusion to dissolve. Add hydrochloric acid to excess, heat to boiling, determine the sulphate with barium chloride solution in the usual way and calculate the results to total sulphur. The total sulphur should amount to between 6.5 per cent. and 7.5 per cent. Weigh, accurately, about 1 Gm. of ammonium ichthyolate-Meadows, transfer to a one hundred cubic centimeter beaker, add 50 Cc. of alcohol-ether mixture (1: 1), stir thoroughly, filter, wash the precipitate and filter with more of the alcohol-ether solvent until the washings become clear. Dry the funnel with the filter at 100 C., cool and wash the filter with 200 Cc. of warm water, slightly acidulated with hydrochloric acid. Determine the sulphate in the filtrate and washings with barium chloride solution in the usual way and calculate the results to ammonium sulphate. The ammonium sulphate should not amount to more than 10 per cent. Place about 5 Gm. of ammonium ichthyolate-Meadows, accurately weighed, in a beaker; dissolve in 100 Cc. of water; transfer to a distillation flask; add an excess of potassium hydroxide solution; distil slowly; collect the distillate in 15 Cc. of normal sulphuric acid to which alizarin red indicator has been added and titrate the excess of sulphuric acid with tenth-normal potassium hydroxide. The total ammonia should amount to from 2.8 per cent. to 3.8 per cent. Place about 0.5 Gm. of ammonium ichthyolate-Meadows, accurately weighed, in a crucible and incinerate at a red heat to constant weight. The ash does not exceed 0.15 per cent.

Dissolve 5 Gm. of gelatin in 100 Cc. of water by the aid of heat. Fill three test tubes about half-way with the warm gelatin solution. Set test tubes in a cool place (from 10 to 15 C.) for five hours. Pour into each tube 5 Cc. of a 5 per cent. aqueous solution of ammonium ichthyolate-Meadows. Set the tubes aside for forty-eight hours at a temperature between 15 and 20 C. At the end of this time pour off the solution on top of the gelatine and wash the tube carefully with a few cubic centimeters of (cold) water. The penetration, as measured from the upper meniscus to the point where the coloration vanishes in the gelatin matrix, should not be less than one quarter of an inch (*Index of penetration*). When tested by the Kinyoun method for antiseptic properties against *Staphylococcus pyogenes-aureus*, a 1: 100 solution of ammonium ichthyolate-Meadows should not show any growth after forty-eight hours; and broth transfers at this time should not show any growth after twenty-four hours' incubation. When tested by the same method against *Bacillus coli*, a 1: 10 solution of ammonium ichthyolate-Meadows should show no growth after forty-eight hours; and a broth transfer at this time should show no growth after twenty-four hours' incubation.

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SATURDAY, APRIL 1, 1922

INCREASE IN DISEASE ASSOCIATED WITH INTESTINAL WORMS

For most physicians the contemplation of the occurrence of invasion of the alimentary tract by some of the more familiar intestinal parasites, such as the tapeworms, roundworms and pinworms, awakens no realization of seriousness. The prognosis in human patients is almost universally regarded as good when once the existence of the invaders has been detected beyond question. The routine anthelmintic measures are generally assumed to be effective and adequate. Whatever harm arises from the worms is usually ascribed almost entirely to the mechanical difficulties which their presence may entail, although of late the possible liberation of objectionable toxins from the parasites has been taken into consideration as an untoward factor.

The World War, which has brought about revolutionary and sometimes almost kaleidoscopic changes in many fields of medicine, seems to have forced the problem of the animal parasites of the human intestine into a new prominence. There are many reports, particularly from the localities where the greatest upheavals have occurred, to the effect that infestation with both the pinworm *Oxyuris* and the roundworm *Ascaris* has become decidedly more common. This increment is attributed by one investigator [1] in the case of oxyuriasis to the shortage of soap and the consequent decline in the standards of personal hygiene among the populace at large of central Europe. For the spread of ascariasis the more extensive use of human excrement as fertilizer and the consequent increased contamination of vegetables, etc., with embryos of the roundworm are held responsible. When these green foods are eaten without being cooked, as so often happens, the embryos soon develop in the alimentary tract into a new generation of adult worms.

The extensive observations of Schloessmann [1] serve to draw attention to the ways in which the worms may become exceptionally menacing. Ordinarily their alimentary habitat is in the upper portion of the intestinal canal. Through local changes in the bowel they are caused now and then to migrate elsewhere. Fever is a peculiarly potent stimulus for worm unrest and transport; indeed, it happens that persons unsuspecting the presence of ascarids may become aware of their presence through discomfort attending the movements of the worms provoked by a rise in body temperature. It is during such migrations that worms of various species find their way into byways of the bowel, notably the biliary tracts, the pancreatic duct and the appendix. Sooner or later, obscure symptoms are likely to call for surgical intervention under conditions in which diagnosis is rendered most difficult. The literature of surgery has recorded numerous instances, but the records since the close of the war have served to emphasize these real menaces of ascariasis.

Another occasional untoward consequence is to be found in migrations of worms so as to lead to their clumping into masses of considerable size. In rare instances, fatal ileus—ileus verminosus—may attend a complete obstruction of the bowel in this way. The surgical clinic of the University of Tübingen has alone reported no less than twelve cases treated during the four years of the European war; and there are reports of many cases elsewhere.[2] If, in addition to all of the foregoing features, the possibility of intoxication from poisons generated by the parasites is taken into account, the problem can no longer be dismissed with indifference. It is unnecessary to magnify unduly the pathogenic importance of the parasitic worms of man; nevertheless, medicine can only profit by being awakened to dangers that may be overlooked all too often because, though near at hand, they are never suspected.

1. Schloessmann: Neue Beobachtungen und Erfahrungen über schwere Spulwurmerkrankungen der Bauchorgane, Mitt. a. d. Grenzgeb. d. Med. u. Chir. **34**:1, 1921.

2. Rost: Ueber Askaridenileus, Deutsch. Ztschr. f. Chir., 1919, p. 251.

THE CAPILLARY CIRCULATION

In the consideration of the varied circulatory functions of the blood vessels, attention has been riveted in the past almost solely on the arteries and veins and the changes that occur in them incident to diverse physiologic and pathologic conditions. Consequently, there has been a tendency to overlook the link between the afferent and efferent vessels connected with the different organs and tissues, and to forget that in ultimate analysis the capillaries are the parts of the vascular system immediately concerned with the nutritive and respiratory exchanges in the body. As a recent writer has expressed it, the rest of the cardiovascular system exists only to regulate the blood flow through the capillaries, for here takes place the exchange of gases necessary for internal respiration and the exchange of materials necessary for metabolism. Any attempt to measure cardiovascular function is an indirect attempt to measure the efficiency of the capillary circulation.

The failure to devote more direct consideration to capillary function in the past has for the most part been due to the technical difficulties which observations on these, the smallest vessels of the circulation, involve. Recently, however, a revival of interest in the behavior of the capillaries has followed the development of fairly satisfactory methods of direct observation rather than indirect deduction, such as has heretofore been depended on, for the most part, for our current knowledge of circulatory functions in the capillaries. Direct inspection of the capillaries began, it is true, soon after the discovery of the physiologic applications of the microscope in the seventeenth century. Ophthalmologists have long been accustomed to inspect the smaller vessels in the retina for the purposes of diagnosis. But the demonstrated possibility of ocular examination of the skin capillaries in man, made possible by the device of rendering the tissue translucent with oil, may be said to inaugurate a new era in the study of the vessels with which tissue function is most immediately concerned. In summarizing our knowledge of the subject, Hooker [1] has remarked that the capillary bed is responsive to both chemical and nervous influences. Broadly speaking, he adds, we may say that chemical factors, so far as they have been studied, mediate dilatation of the capillaries and venules, while nerve stimulation mediates constriction of these vessels. Both these factors have long been recognized as participating in vascular reactions, but only in recent times have they come to be specifically located in their effects on the capillary and venule, that is, on that section of the vascular bed which is composed of bare endothelium.

By applying the method of direct observation of the capillary circulation to clinical conditions, Freedlander and Lenhart [2] of Cleveland have obtained a picture of the changes that take place in traumatic shock, the condition recognized by the group of symptoms consisting of low blood pressure, grayish pallor, mental stupor, rapid, small pulse, rapid, shallow respiration and usually subnormal temperature. They are attended by almost complete stasis in the skin capillaries, a situation thus corroborating the clinical impression. A similar picture was secured in severe cases of septicemia in which there had been a sudden collapse. It is well known that patients with hypertension with the same blood pressure may show great variations in the symptoms that they present, despite the high blood pressure to which all are subject. The findings of Freedlander and Lenhart suggest the possibility that such differences may be due to the unlike conditions with respect to the blood in the capillaries. In some cases they have noted an intermittent flow in poorly filled capillaries; in others, a steady transmission of the circulation. Evidently, some of the symptoms are related not so much to the hypertension per se as to the blood supply in the capillary vessels. Perhaps, when the facts have been better fathomed, it will be possible to introduce a more rational therapy and to learn precisely when it is either advantageous or disastrous to attempt to alter the blood pressure: in other words, to distinguish a poor capillary circulation which is the direct outcome of a hypertonic rise in blood pressure. However, even now, in view of the newer studies which corroborate the clinical picture, the Cleveland investigators express their greater faith in observations of a capillary stasis in shock, the capillary picture in cardiac decompensation, the poor capillary flow in some cases of hypertension, and the different pictures of a capillary pulse.

1. An excellent review of the experimental work in this field has recently been published by Hooker, D. R.: Evidence of Functional Activity on the Part of Capillaries and Venules, Physiol. Rev. **1**: 112, 1921.

2. Freedlander, S. O., and Lenhart, C. H.: Clinical Observations on the Capillary Circulation, Arch. Int. Med. **29**: 12 (Jan.) 1922.

BACTERIOSTATIC ACTION OF THE TRIPHENYLMETHANE DYES

There are few chapters in the history of chemistry more fascinating than those dealing with the expansion of theory and practice which has resulted from a study of the anilin dye derivatives. The first use of these substances in biology was for the selective staining of tissues and cells of various types, though it was early observed that some of them were antagonistic toward bacteria. Ten years ago, gentian violet was merely one of the anilin colors which, under the microscope, gave a clear picture of certain forms of bacterial life; but in 1912 and in succeeding years, Churchman [1] called attention to its bactericidal powers. As he more properly calls it, anilin gentian violet appears to be a bacteriostat—inhibitive but not necessarily lethal. Churchman has shown that its action is selective, gram-positive organisms being killed or inhibited, while gram-negative organisms are in general unaffected.

The applications of the discovery of the selective power of gentian violet have been manifold in both bacteriology and medicine. The bacteriologist has found culture mediums containing gentian violet of definite value in the isolation of *Bacillus tuberculosis*, *B. influenzae*, *Epidermophyton inguinale* and of the anaerobes,[2] as well as in the improvement of methods of testing potable water for the colon bacillus.[3]

1. Churchman, J. W.: The Selective Bactericidal Action of Gentian Violet, J. Exper. Med. **16**: 221 (Aug.) 1912; The Selective Bactericidal Action of Stains Closely Allied to Gentian Violet, ibid. **17**: 373 (April) 1913.

2. Petroff, S. A.: A New and Rapid Method for the Isolation and Cultivation of Tubercle Bacilli Directly from the Sputum and Faeces, J. Exper. Med. **21**: 38, 1915. Bernstein, E. P., and Loewe, L.: A Simple Method for Isolation of Influenza Bacillus, J. Infect. Dis. **24**: 78 (Jan.) 1919. Farley, D. L.: Isolation of Pathogenic Molds (Epidermophyton Inguinale) by the Use of Gentian Violet, Arch. Dermat. & Syph. **2**: 466 (Oct.) 1920. Hall, I. C.: Selective Elimination of Hay Bacillus from Cultures of Obligative Anaerobes, J. A. M. A. **72**: 274 (Jan. 25) 1919.

3. Hall, I. C., and Ellefson, L. J.: The Elimination of Spurious Presumptive Tests for B. Coli in Water by the Use of Gentian Violet, J. Bacteriol. **3**: 329 (July) 1918; A Brief Note on the Use of Gentian Violet in Presumptive Tests for B. Coli in Milk with Reference to Sporulating Anaerobes, ibid. **3**: 355 (July) 1918.

Furthermore, the demonstration [4] that within a "pure" culture of *B. coli* there might exist two distinct strains, one resistant to gentian violet and one inhibited by it, was one of the pioneer discoveries in the field of bacterial variability—or, as it has since been called, microbic dissociation—which has proved of considerable theoretical importance during the last few years. This phenomenon was foreshadowed in 1912 by the observation [5] of a strain of *B. enteritidis* which did not grow in the presence of gentian violet, though the other four strains examined and identical with it by all the usual tests were unaffected by the dye.

The studies with gentian violet have also thrown light on another question of fundamental interest from both a theoretical and a practical point of view. Whether or not the living nucleus of tissue cells can be stained has for years been a debated question. In spite of some early observations to the contrary, the older literature took the position rather firmly that the deposit of stain within the nucleus is incompatible with life, and much of the newer literature reaffirms the traditional opinion, which has, indeed, been rather generally held. In 1913, however, Churchman and Russell [6] were able, by the tissue culture method, to observe division of nuclei stained with gentian violet which had been added to the mediums in which the tissue was grown. Confirmatory evidence of the correctness of the conclusion necessarily to be drawn from this experiment—that the living nucleus can be stained—has been subsequently obtained from other sources. It has been shown by injections into the human knee joint during life that the nuclei of the synovial membrane may be stained without apparent injury;[7] and also that living bacteria may be deeply stained without interfering with their growth. Since the appearance of the first of these two publications, other investigators, using a similar technic, have observed division of tissue cells whose nucleoli contained the dye pyrrol blue. Whether the dye, in the gentian violet experiments, rests actually in the nuclear material or, as suggested by certain experiments of Evans and Schulemann, in the nuclear lymph, the essential fact seems to be that foreign coloring matter has been lodged within the nucleus without impairing it. Gentian violet, therefore, proves to be selective not only as between gram-positive and gram-negative organisms, but also as between bacteria and tissue cells. Complete experimental evidence has thus, for the first time, been provided for the principle that agents which kill bacteria may be without harmful effect on the vital part of tissue cells—the nucleus—even though they have permeated it.

From a medical standpoint, the possibility that gentian violet and allied dyes might be used for in vivo disinfection has seemed a most attractive one. The treatment of acute infections of the joint by lavage and direct medication with gentian violet, first suggested by Churchman,[7] has given encouraging results. The same method has been applied to the treatment of chest infections during the last year,[8] while the dye has proved of some value in the sterilization of granulating wounds of various types.

There are many tempting possibilities of future investigation in regard to such selective bacteriostatic action. From the theoretical side, the isolation of the particular chemical group responsible for the activity of the triphenylmethanes would be of great interest, as would a better understanding of the underlying reasons for the parallelism between the Gram reaction and bacteriostasis. From the practical standpoint many new applications are possible, particularly if the difficulties in the way of the intravascular use of the dye—which, though great, may not prove insurmountable—can eventually be overcome. The striking results obtained with gentian violet indicate the desirability of pursuing further the study of its action.

4. Churchman, J. W.: Further Studies on the Behavior of Bacteria toward Gentian Violet, J. Exper. Med. **33**: 569 (May) 1921.

5. Churchman, J. W., and Michael, W. H.: The Selective Action of Gentian Violet on Closely Related Bacterial Strains, J. Exper. Med. **16**: 822 (Dec.) 1912.

6. Churchman, J. W., and Russell, D. G.: Proc. Soc. Exper. Biol. & Med. **9**: 120, 1913-1914. Russell, D. G.: The Effect of Gentian Violet on Protozoa and on Tissues Growing in Vitro, with Especial Reference to the Nucleus, J. Exper. Med. **20**: 545, 1914.

7. Churchman, J. W.: The Treatment of Joint Infections by Lavage and Direct Medication, Ann. Surg. **62**: 409, 1915; Treatment of Acute Infections of the Joint by Lavage and Direct Medication, J. A. M. A. **70**: 1047 (April 13) 1918; Septic Arthritis of the Knee Accompanying Fracture of the Patella, ibid. **72**: 1280 (May 3) 1919; Sterilization of Closed Cavities by Lavage and Staining with Gentian Violet, ibid. **77**: 24 (July 2) 1921.

8. Waters, B. H.: Pleural Infections Complicating Artificial Pneumothorax Treated with Gentian Violet, Am. Rev. Tubere. **4**: 875 (Feb.) 1921. Major, R. H.: The Treatment of Empyema with Gentian Violet, Am. J. M. Sc. **162**: 397 (Sept.) 1921.

Current Comment

"PREMEDICATED" ALCOHOL

A petition to permit the use of so-called "premedicated" alcohol in remedies for internal use has recently been placed before the Secretary of the Treasury and prohibition officials. According to drug journals the petition was presented by Mr. Harry B. Thompson, general counsel for the Proprietary Association—the organization of "patent medicine" interests—and also by the Chattanooga Medicine Company—makers of "Wine of Cardui." It is proposed that alcohol may be denatured, that is, "premedicated," by using just enough of one or more of the ingredients of the particular mixture to be made to render the alcohol unfit for beverage purposes—nominally, at least! When thus medicated, the alcohol is to be tax free. The proposal, which on the face of it may seem attractive because of the great difference in the price of pure alcohol and denatured alcohol, contains dangers to medicine and to pharmacy. It means that alcohol, in such instances, would be denatured or "premedicated" at distilleries, and would then be shipped to the pharmaceutical houses where the manufacture of the medicine would be completed. In case of preparation of high-grade pharmaceuticals, therefore, scientific con-

trol would be difficult. Furthermore, it would be necessary for the manufacturer to have as many, or nearly as many "denatured" alcohols as the number of alcohol-containing preparations he makes—a relatively large number; again increasing the possibilities of error. From the scientific point of view, the serious objection is that the proposed plan would disturb pharmacopeial standards and methods of procedure, introducing rigidity where elasticity is often required. Extemporaneous pharmacy would be seriously hampered, and this, in turn, would affect the physician and, more important, the patient. It may be argued that the druggist and the manufacturer of high-grade pharmaceuticals would be under no obligation to use the "premedicated" (and tax free) alcohol; it would merely be permissible. It is obvious, however, that the operation of natural economic forces—competition—would assert itself here as inevitably as in all other fields of commercial enterprise. The use of tax free alcohol, which would cost about 85 per cent. less than the taxed product, would supersede the use of the higher priced, pure (unmedicated) alcohol. Of course, the makers of alcoholic "patent medicine" would profit primarily and the distillers secondarily. It seems doubtful to those familiar with the methods of nostrum exploiters that the saving would be passed on to the public.

THE ADVERTISER IN BELLES LETTRES

Progress in the art of advertising has been marked by certain high points which include, for example, the scientific study of display, the application of the fundamental laws of the psychology of vision; the employment of noted artists and litterateurs for the preparation of copy, and, finally, the utilization of unusual methods for attracting the reader's attention. Sometimes, however, the results of the application of the esthetic arts to commercial purposes is highly incongruous. A recent issue of the house organ of a pharmaceutical specialty house contains several advertisements of glandular products. Presumably in order to attract the attention of readers, the names of famous writers are used. Thus: Montaigne, the noted French essayist, who died of nephritis, is utilized to suggest that if his physicians had known of "Nephritin" they would have been able to furnish him with "substantial constructive help," a statement which may be more readily accepted by litterateurs than by pathologists. Joaquin Miller, the poet, just before his death, issued an announcement to the effect that the simple life would prevent indigestion; ergo, since all of us cannot live the simple life, we must depend on Peptenzyme. Thomas Hood, the great humorous British poet, fell ill and his wife made broths, soups and other nourishing dishes for him, but poor Hood did not improve and slowly passed away. "Therefore," says the advertiser, "use Trophonine," which, it is claimed, is a palatable liquid food. Finally, Victor Hugo during the siege of Paris wrote: "Yesterday I ate some horse. Today it is dog, maybe it is rat. God help us; we are eating the unknown. Is it any wonder that we are all constipated?" "Like Victor Hugo," proclaims the advertiser, "millions today are eating the unknown, and are paying the toll in constipation." "From whatever cause it originates . . . Pancrobilin is always indicated." One may picture the shades of Montaigne, Miller, Hood and Hugo, on the slopes of Parnassus, pointing with pride to this twentieth century echoing of their literary achievements. Alas, where they now are Nephritin, Peptenzyme, Trophonine and Pancrobilin cannot avail.

"FAIR PLAY TO THE PUBLIC"

An editorial in a recent issue of the New York *Evening World* commented on an investigation that had been made in New York in an attempt to test the quality of "chiropractic" knowledge. Normal individuals went to certain chiropractors, gave fake symptoms, and the chiropractors "discovered" subluxations whose presence defied the roentgen ray. The *Evening World* very properly pointed out that, possibly, if normal individuals went to reputable medical practitioners and reported fake symptoms, physicians themselves might "fall down" on both diagnosis and treatment. As a result of this comment, the *Evening World* received a number of letters of approbation from the chiropractors, in one of which the writer commended what he termed the paper's "policy of fair play to the chiropractors." The *Evening World* came back with an editorial whose title we reproduce in the caption. This editorial contains so much sound sense that we make no apology for reprinting it practically in full:

> The *Evening World* is vastly more interested in a policy of fair play to the public.
>
> Fair play to the public would, we believe, eliminate 90 per cent. or more of the present practitioners of chiropractic.
>
> Fair play to the public would require adequate education of chiropractors—for example, a regular medical course plus the specialized postgraduate work expected of a specialist in other fields of medicine.
>
> In such a course many would-be chiropractors would come to the conclusion that manipulation of vertebrae is not a cure-all, whatever its possibilities.
>
> Fair play to the public demands that chiropractic processes should be used only by men who know thoroughly what they are doing and why. Both common sense and science deny that all ills are traceable to the spine.
>
> Fair play to the public demands a strict curb on a great mass of quackery masquerading under the name of chiropractic. Fair play to the public would send a substantial percentage of chiropractors either to school or to jail.
>
> Adequate education might develop some competent healers of a limited group of diseases from the crowd of incompetent meddlers. But, given education, it is probable most of them would cease to be chiropractors.

BENIGN GIANT CELL TUMOR OF BONE

The fact that limbs undoubtedly are being sacrificed needlessly on account of a distinctly benign growth in bone prompts this brief reference to the so-called benign giant cell tumor of bone. These growths are known also as medullary giant cell sarcoma, and giant sarcoma of the epulis type, and occur usually in the ends of the long bones, especially the upper end of the tibia. According to Martland,[1] in a recent presentation

1. Martland, H. S.: Primary Bone Tumors, Their Classification with Special Reference to Benign Giant Cell Tumor, Proc. New York Path. Soc. **21**: 102, 1921.

of the chief features of primary bone tumors, these growths commonly follow a definite trauma, grow slowly, and recur after incomplete removal, but do not form metastases in distant parts. In fact, there seems to be no record of a typical growth of this kind ever giving rise to secondary nodules in the lungs or elsewhere. The growth usually is confined within the periosteum, does not infiltrate, and is removed easily from its bony shell. The tissue is vascular and friable, resembling red currant jelly or fresh liver tissue, and consists microscopically of granulation-like tissue, with cellular and hemorrhagic areas as well as fibroblastic whorls looking in some degree like spindle cell sarcoma, and numerous giant cells with glassy cytoplasm and many vesicular nuclei. Often the giant cells seem to predominate, as indicated by the names cited. The examination with the roentgen ray reveals an expansive, abrupt, well defined growth with a definite bony shell. Instances have been observed in which benign giant cell growths in time have changed into local cystic formations, and rare cases of multiple giant cell growths becoming cystic (osteitis fibrosa cystica) are recorded, notably the case followed for many years by Martland, who finds that there are four such cases in American literature. In the discussion of Martland's paper, Ewing states that, at a meeting of about thirty surgeons in New York, no less than twelve announced that they would amputate in a case presenting the features just given as characteristic of the benign giant cell tumor. This episode suggests that deplorable ignorance exists in regard to the nature of these growths. It is important that in the diagnosis of such growths all the characteristics be considered carefully. Ewing emphasizes their susceptibility to infection on incision and incomplete removal, and also that they "respond very well to treatment by physical agents, roentgen ray and radium." It is of interest to note, too, that Ewing is also in favor of a more extended and thorough trial of the roentgen ray and radium in malignant osteogenic sarcoma, because promising results have been obtained and because no other treatment now available—and that means amputation—is satisfactory or successful. In the case of the benign giant cell tumor of bone, however, the demand for a rational conservatism in surgical treatment is not for the purpose of determining its value, because that has been established beyond question, but in the interest of the welfare of the individual patient.

PHYSICIANS IN GERMANY AND IN THE UNITED STATES

Statistics showing the supply of physicians in other countries are interesting since they permit a comparison with the number in the United States. In the Berlin letter published last week, the number of physicians in Germany in 1921 is given as 36,186 for a total population of 60,412,084, or one physician to every 1,670 people. There is, therefore, proportionally a larger number of physicians in Germany than before the war. Since the close of the World War, anxiety has been expressed there because students in increasing numbers have been entering the medical schools, which indicates a further overcrowding of the profession. If there are good reasons for anxiety on this score in Germany, what about the United States? The figures for 1920[1] show that this country had one physician for every 726 people—more than twice as many as Germany, in proportion to the population. Another interesting fact is brought out in the letter, viz., that the forty-four largest cities of Germany, with only 25 per cent. of the population, have 44.2 per cent. of all physicians. Similarly in the United States the seventy-seven largest cities, which have 25 per cent. of the population, have only 36.5 per cent. of all physicians. In Germany, therefore, the tendency of physicians to locate in the larger cities is even more pronounced than it is in the United States.

Association News

THE ST. LOUIS SESSION

Hotel Reservations

The Local Committee on Hotels for the St. Louis Session reports that in some instances Fellows have made duplicate hotel reservations. This preempts accommodations which should be available for those who have not yet secured reservations. The committee is concerned that every Fellow who attends the annual session shall have comfortable quarters, and it urges that the making of duplicate hotel reservations be avoided and that any which may now be held shall be adjusted by releasing all rooms in excess of those which are to be occupied. If Fellows, after writing to the hotel of their choice, are unable to secure accommodations, on request the hotel committee will render its assistance. The Local Committee on Hotels should be addressed, Dr. Louis H. Behrens, Chairman, 3525 Pine Street, St. Louis, Mo.

Preliminary Announcement of Social Events

The Committee on Entertainment reports that Mrs. Willard Bartlett has accepted the chairmanship of the Ladies' Entertainment Committee. As a result of the activities of this ladies' committee, the visiting women will be provided with a full program of social events. The tentative program now rapidly taking definite form includes a tea on Tuesday afternoon; participation in the Opening General Meeting, Tuesday evening; a musicale, Wednesday morning, to be followed by a luncheon which will be available to those ladies who desire it; an automobile ride during the afternoon; a river trip, Thursday morning, and a reception in the afternoon; automobile trips, Friday morning, and an entertainment at the Missouri Botanical Gardens during the afternoon. The Local Committee on Ladies' Entertainment is hoping that the attendance of visiting ladies will be large.

ANNUAL CONGRESS ON MEDICAL EDUCATION, LICENSURE, PUBLIC HEALTH AND HOSPITALS

(Concluded from page 902)

FRIDAY, MARCH 7—MORNING

HOSPITAL DISPENSARY SERVICE

The American Conference of Hospital Service

DR. FRANK BILLINGS, Chicago: The American Conference of Hospital Service was organized in Cincinnati in the fall of 1920 by the representatives of national organizations which were engaged in an effort to improve hospitals. Among the organizations that took part in the establishment of the conference were the American Hospital Association, the American College of Surgeons, the American Medical Association,

1. Proportion of Physicians to Population, J. A. M. A. 76: 1248 (April 30) 1921.

the Association of American Medical Colleges, the Federation of State Medical Boards of the United States, industrial physicians and surgeons, and one or two nurses' organizations. They deemed it necessary to have in the hospital a clearing house for the purpose of establishing a central repository or library in which would be deposited, and be available for use, data relating to hospitals, not only in regard to professional work but also with reference to the administration of hospitals, plans of construction and equipment.

Fundamental Principles of the Standardization of Hospitals

MR. JOHN G. BOWMAN, Chancellor, University of Pittsburgh, Pittsburgh: The idea prevails today in medicine that no society wants to duplicate efforts of other organizations. If the purpose of a hospital is to make for better care of the sick or injured, you cannot bring into your program anything that does not make directly for the better care of the sick or injured. If the initiative of work in the hospital is to be kept alive, a free play of the intelligence of each individual must be kept alive, and this means, first, an objective mark for future attainment must be clear. Everybody in the hospital must feel not only intellectually but emotionally what the thing is for and must seek to accomplish that purpose. In this process of attainment of the mark, a constant series of alternatives will necessarily arise which call for judgment, a free play of the intelligence being forced into action. If results strike closely to the mark, nothing more is required. The purpose of a hospital is training.

Hospitals were created by society for the care of the sick and injured, and in recent years society has come to realize that medicine outdoes all other professions. Hospitals are accountable as institutions to the public for the right care of every man, woman and child admitted as a patient. The hospital assumes some real responsibility to the public for the character of its service. The medical profession is in a stronger position today before the public than it has ever been, and I believe it is in process of rapidly strengthening that position. Taking hold of the hospital and making it an avenue through which the profession can carry out the responsibility it owes to society is one of the great problems of today.

Hospital standardization is a detective process, and it is also one with a moral process. Whenever a service in a hospital detects human illness and relieves it, the service is essentially moral. It is the transmission of good. Morality is something you cannot put in cold storage and take out on Sundays. The sum total of a sound program of hospital standardization carries forward and tends to compel proper service to the individual practically, scientifically and morally.

DISCUSSION

DR. M. L. HARRIS, Chicago: Since every physician is in favor of anything that will contribute to the better care and treatment of the sick, no argument is necessary to convince the medical profession of the desirability of improving the efficiency of hospital service. The term "standardization of hospitals" is an unfortunate one, since it does not convey in any sense the ends to be accomplished, namely, better care and treatment of the sick. The best criterion of hospital efficiency is the amount of human suffering relieved by the work done in that institution. The word "efficiency" embodies the idea that the work should be done as expeditiously and as economically as possible. The benefit of a hospital to a community is a relative question, and depends on the particular community and the honesty and ability of the men doing the work. In the elaboration of hospital management, there are many things in the way of clerical, statistical and technical work which can be advantageously done in large, richly endowed hospitals, or by state institutions, which often have more regard for that kind of work than they have for the character of the output. Frequently it seems to be forgotten by those who are attempting to standardize hospitals that there comes a point in the management of the smaller hospitals at which better work may be done than is done in some of the larger ones, when the installation of such elaborate systems costs a great deal more than the benefit returned to the patient. In such cases, they should not be installed from an economic standpoint, for next to the welfare of the patient's physical condition comes economy of management.

Most hospitals are controlled and managed by a board of trustees, and this body is responsible for the policies of the institution. Hospitals are the workshop of physicians; the material worked on is the sick; the output is health. It is very properly assumed that physicians know more about the care of the sick than any other class of individuals; therefore, medical men should be on every board of trustees managing hospitals. I believe that the majority of the members of such boards should be composed of medical men. When medical men dominate the policies of boards of trustees of hospitals, we shall see fewer humiliating instances of medical men selling their soul and body and independence to an institution for the privilege of having their names appear as a member of the staff of the institution.

The closed hospital has come to the front as a result of the propaganda of so-called standardization of hospitals. This sounds much like, and is on a par with, the closed shop of the labor unions. Unless a man is a member of the union, he may not work in a union shop or place. The same tendency is seen cropping out in some hospitals. As a result of the propaganda for standardization of hospitals, many boards of trustees, not dominated by medical men, and superintendents of hospitals misguided by false ideas of the real purpose of a hospital, are asking the question of a physician who wishes to take a patient to the particular hospital whether or not he is a member of some organization. If not, permission to have the patient enter the hospital under his care is denied him. Such a short sighted policy must end disastrously, and the remedy lies in the hands of medical men.

The most audacious and pernicious stand is promulgated that the patient belongs to the hospital and not to the physician, and that the hospital alone is it. It seems scarcely possible that a person would have the audacity to give utterance to ideas so destructive of the responsibilities of the profession. It is even more remarkable that the medical profession has not resented the insulting proposition. If such a preposterous idea prevails, the medical profession will soon be reduced to a purely secondary and subordinate position in the care of the sick, where favored ones might, by the grace of the management, be permitted to sit quietly on the steps of the hospital hoping that the superintendent might condescend to call in one of them and give him permission to prescribe for a patient under his watchful eye. That such a scheme would be to the best interest of the patient, it would seem no intelligent person could even dream. But with such ideas in the air, is it not about time that the medical profession assumed a little more control of medical matters?

REV. CHARLES B. MOULINIER, Milwaukee: There are more than 8,000,000 people who pass through the general hospitals of the United States and Canada every year. Those who are closely connected with the whole movement for better hospitals have concluded that within the last three years the care of those 8,000,000 people has been very much improved. The number of operations that have taken place in each of these hospitals is perhaps 5,000 or 6,000. It has been estimated that 30,000 or 40,000 operations that would have been considered necessary before were found out not to be necessary because of increased care and caution. As a matter of end-results, this movement has been of benefit to the patients. The whole movement was started from the one fundamental point of view of the right of the patient to the best possible care within reason, from the medical man, from the nurse, and from the hospital management. The most fundamental right that each one of us has is the right of life and the well-being of life as a necessary consequence. This movement for better hospitals has grown out of an appreciation of that fundamental right of the human being.

Qualifications and Training of Hospital Superintendents

DR. A. C. BACHMEYER, Cincinnati: Considerable thought has been given to a contemplated course of training for hospital superintendents, but as yet opinions and plans have not been crystallized so far as extent of studies and methods of instruction are concerned. A number of individuals throughout the country have been giving attention to the subject,

The Rockefeller Foundation is supporting a committee which is now engaged on a study of the subject, but no definite program has as yet been prepared. The only way in which physicians, nurses or laymen can enter the field with any training or experience is by means of an apprentice system, in which they serve as assistant in one of the larger hospitals for a number of years or enter the hospital employ in some minor capacity, and then, by promotion, win their way to the superintendency. The number who in this way become available for executive positions each year is small. If our colleges can prepare men for other professional and technical vocations, they certainly should be able to prepare men and women for administrative positions in our hospitals.

A hospital superintendent should be a mature individual, of clear mind, broad vision and good perspective, having executive ability and initiative. He should possess sufficient experience in business and administration and in those more or less mechanical and clerical duties of the executive.

The course of training should first be considered as a whole, and then subdivided into such units or divisions as may be easily administered from the point of view of instruction. Because of existing conditions, the limited remuneration now being paid the majority of superintendents, and the varied type and size of institutions, the course should be restricted to a rather short period. It has been suggested that, for these reasons, the instruction should not extend over a period of more than twelve, or at most eighteen consecutive months.

The training should primarily give the student inspiration and point of view. He should be led to think of the hospital in terms of its relation to the community, to the medical and nursing professions and to society in general. It is the hope that beginning in the fall of this year, a course will be established, which will include history, sanitation and hygiene, biometry, sociology, jurisprudence, business science, domestic science, building and power plant operation and maintenance, and administration.

DISCUSSION

Mr. Edwin R. Embree, secretary, Rockefeller Foundation, New York: It seems to me that not only must we teach students known facts about the management of hospitals, but we must continue to increase knowledge of the science, knowledge of the procedure of hospital management and in a general way explain the training in the known sciences. We must instruct students regarding the management of hospitals and clinics and institutional medicine in all of its phases. We must conceive of schools as schools of medicine. If we had started 100 years ago by establishing medical schools and had contented ourselves with passing on the knowledge of medicine, we should have made little progress. The greatest contribution of medical schools in the past generation was not the training of medical students but the additions to medical science that have been contributed by the professors and the students working with them in these medical schools. The chief difficulty we have to contend with in setting up a training school for hospital executives is that we know so little of what the curriculum should be and what the hospital and its related departments are to be. We have made no strong effort to correlate medical service, nursing service, and business administration in such a way as to make it possible for a person who wants to go into the administrative side of institutional medicine to get what he needs.

Dr. Willard C. Rappleye, chairman, Committee on Survey of Opportunity of Training of Hospital Executives, San Francisco: The training of hospital executives must in its last analysis be contingent on the interpretation of the function of a hospital. Obviously, the unit of operation of a hospital is the patient, and a patient going into a hospital represents nothing more nor less than the cross section of a human life. The prime object is to set up machinery and other facilities by which we can bring into play the best scientific medicine, and particularly in the form of adequate diagnosis. Housing and care and feeding of patients is a subdivision of the great object of service of the hospital. Another equally important feature of hospital function is the organization of machinery to carry on work that has been done in the hospital. The discharge of the patient does not complete the obligation of a hospital. We must provide the machinery to carry on the work which the hospital has undertaken following the diagnosis, the operation in a case of tuberculosis or of heart disease. We must provide the machinery for the consideration of dietary problems in cases of diabetes, readjustment in cases of mental diseases and other pathologic conditions. We must be prepared to carry on the good work started in hospital organization in the problems of rehabilitation, reeducation and readjustment.

A large amount of public health work, of preventive medicine, is a problem in education, and one of the great functions of a hospital is to carry on educational work in interpreting medicine to the community, in interpreting the value of scientific medicine and of the facilities of the hospital and of everything that medical organization can bring.

Dr. A. R. Warner, Executive Secretary, American Hospital Association, Chicago: It is not pleasant for a hospital administrator to stand by the side of the necropsy table when it is plain that death was due to failure of the institution, and in no way accountable to any act of the surgeon. It makes hospital administrators think. It has been said today that physicians are particularly qualified to direct the destinies of a hospital. I began hospital administration after a four years' course in medicine, eighteen months of internship, and three and a half years of private practice, and had acquired a maturity of thirty-five years, and as I think back over the past years on the mistakes in my administration which affected the rights of the patients that were in that institution, I am a supporter of any movement which can in any way add to the better administration of our hospitals and the better training of the hospital administrator who is above all responsible for the details of the institution. I believe, from personal experience, that many of the mistakes and much of the ignorance responsible for the failure of institutions can be avoided by the proper instruction of properly qualified men before they become responsible for the work of any institution.

Dr. George W. Swift, Seattle: With reference to hospital standardization, I hold in the state of Washington relatively the same position that Dr. Harris holds in Illinois, and either I am absolutely wrong in regard to what we are trying to do in hospital standardization for our state, or else Dr. Harris is wrong in his conclusions. Washington has been confronted, medically speaking, by the accusation from the Federation of Labor of incompetence, and they proved their point when we sat in conference with the leaders of labor. Just as Mr. Bowman has stated in regard to fractures of the femur, the Federation of Labor showed that the rank and file of medical practitioners were incompetent in regard to industrial surgery. We had to recognize that fact and we set about to find the reason, and we found that our hospitals were not properly equipped to give modern scientific treatment in industrial surgery. We also found that the physicians in Washington were not properly equipped and trained to administer proper treatment. What is true in Washington I know to be just as true with the rank and file of medical men in other states.

Dr. C. C. Burlingame, New York: The hospital superintendent should be linked up with what hospital organization ought to be. If you are going to train any person to do his job, you have to tell him in advance where he fits into the scheme of things. There seems to be quite a diversity of opinion as to what a hospital superintendent should be in the hospital organization. If we try to define what his position should be, I believe that we shall make fully as great a contribution toward the successful operation of a hospital by asking the question, Is the superintendent to be a sort of secretary to the board of directors, a man who is to conduct committees through the hospital? Is he to be chairman of the medical board of the institution, or is he to be the head of the institution in every sense of the word? I am not attempting to answer those questions, but I do feel that they ought to be worked out. If the superintendent is to be trained to do his job, he has to know what the other jobs of that institution are and what their responsibilities are. The superintendent's job should be to understand the whole organization, the relationship between departments, and he should be the correlating agent between the medical interests and financial interests of the community and of every other thing that

touches the hospital. It seems to me that if we can eliminate every unnecessary step and pin the responsibility on some one person, and not on two or three, we shall not only save money, but have better service within the hospitals.

DR. PAUL W. GOLDSBURY, Deerfield, Mass.: I should like to speak of the difficulty of getting standards into rural hospitals as I have observed them, not as I have worked particularly with them. I can appreciate the difference of the situation in the state of Washington and in Illinois, where there is such a great educational center as Chicago. It would seem to be easy to educate hospital executives from among the medical profession; but the problem in a state like Washington, where the population is largely a rural one, is quite different. From my observation, the larger the hospital the easier it is to have standards, while the smaller the hospital the harder it is to have standards, and the more necessary it is thought to have ideal standards. I think we should attempt to do something to develop a sentiment that will carry ideal standards to the rural hospitals.

REV. P. J. MAHAN, Chicago: One of the fundamental principles mentioned and reiterated, and which we all accept as being absolutely fundamental, is the responsibility of the hospital as an institution, and a moral responsibility to the patient is an accepted principle by the medical profession. If that is true, and it is not accepted by the individual members of the medical profession in a great many instances, this whole movement is meeting with opposition because of that fact. Why is that? One reason is this: That its working out is interpreted by different men in different ways. This movement of improvement of hospitals has been accused openly by many as working out into results that are very undesirable to the medical profession, to the patient, and to the community at large. I do not think sufficient attention has been given to these objections. If they are true, then we should recognize that fact and change the movement. If they are not true, then attention should be given to the objections; at least, a wider publicity should be given to the unsoundness of the objections so that obstacles should be eliminated. One of these objections has been voiced by Dr. Harris, and the ultimate working out of this program will be the closed hospital or hospital assigning patients to physicians. If these two results are inevitable, the program is wrong. I do not believe that it is the result, but it indicates something that should be stressed by those in carrying out this program. One point particularly is this: it is brought forward now that proper hospitalization is necessary in order for physicians to take proper care of their patients. If that is true, every physician who enters the hospitals of a community must have hospital facilities. In what way is this to be carried out? It is necessary to safeguard the interests of the hospitals and of the patients. Every physician should have the opportunity of hospital facilities. If this is kept in mind, the objection raised to the closed hospital will be dissipated.

MR. FRANK E. CHAPMAN, Superintendent, Mount Sinai Hospital, Cleveland: Dr. Harris spoke of having medical men on the board of trustees of hospitals. I am wondering whether we do not forget what the primary function of the board of trustees is. The board of trustees is supposed to be the policy forming body, to have nothing whatever to do with the details of any good purpose. I do not believe that any one but a fanatic is advocating a closed hospital. I do not mean by that there are not a lot of closed hospitals in the country. That the closed hospital has been produced by evolution of thought in administration in the main is incorrect. Let us not think in terms of the closed hospital, but in terms of the control of the hospital, that is, accepting responsibility to the community for the services of each component part of its entire activity. Dr. Harris has been thinking in terms of the patient belonging to the hospital. Some one has said that the patient belongs to the hospital and the nurse. I believe he belongs to himself, and that the physician, the hospital, the nurse, the engineer and the porter are all component parts in rendering the best service to the cross-section of life —the patient; and as long as we think in terms of any patient belonging to us, just so long are we going to have inefficiency in our hospital operations.

DR. H. R. SMITH, Michael Reese Hospital, Chicago: So far as making closed hospitals is concerned, one of the large hospitals has been recently reorganized. It was an open hospital before reorganization and it is still an open hospital, and in all probability will continue to be an open institution. The increasing number of patients is largely due to the fact that this hospital is trying to increase its equipment. I do not feel that any hospital can exist unless it gives to patients the best possible type of equipment and service. If patients cannot be better taken care of in hospitals than they are in their homes, the hospital has no right to exist; and if a hospital cannot prove to the public that it is taking better care of patients than they can receive in their homes, that hospital should close its doors.

REV. CHARLES B. MOULINIER, Milwaukee: If we do not admit that there is an institutional responsibility, how can we get any authority into the hands of the superintendent? He must have the authority of the whole institution, beginning with the board of trustees, who are the primary sources of responsibility, and then reaching into all those acting in the institution.

DR. FRANK BILLINGS, Chicago: As to the hospital facilities in relation to the medical profession, from 75 to 80 per cent. of the medical profession of this country have no hospital facilities for their patients. That is one thing they should have in any future program. There are some people who are interested in the welfare of others, and who believe that all sick and injured people require hospital care. We have a minimum annual morbidity in the United States of approximately 24,000,000 people who need medical care. At present we do not hospitalize more than 25 per cent. of those people. My opinion is that not more than 25 per cent. of the people need it. In other words, I believe that 75 per cent. of the people who require medical and surgical care can obtain efficient care outside of hospitals. The proportion of people going to hospitals is about right, and I am of the opinion that we should not attempt fully to hospitalize all patients. I believe that the welfare and integrity of the United States of America depend on the maintenance of the family home, and the maintenance of the family home is dependent on the domiciliary visitation of a physician. I believe that is susceptible of proof.

FRIDAY, MARCH 10—AFTERNOON

The Dispensary as a Factor in Medical Education and as a Diagnostic Clinic

DR. W. S. THAYER, Baltimore: In its relation to the hospital, the dispensary should be that department in which these many applicants for medical advice or attention who are not ill enough to enter the wards may be cared for. It should be the center from which the patient who has been under observation in the wards may be followed and directed and observed throughout such periods of time as may be desirable. It should be the center of an efficient social service department which should keep in touch with and assist the indigent sick who are under treatment in the dispensary, and their families and attendants. The dispensary is invaluable to the medical school as an arm through which may be gathered patients suffering from those special diseases concerning which studies are in progress. It affords, if properly organized, a mine of material in the shape of patients more or less disabled from chronic disease who may be utilized for purposes of instruction. Again, wholly or partially disabled persons may from time to time earn small sums of money by allowing themselves to be presented as objects of demonstration or study. The dispensary affords an opportunity for junior students acting as assistants to obtain valuable training in the technic of history taking. It offers an opportunity for the senior student of medicine to observe the attitude of his fellow man toward those lesser ailments with which he will be concerned in his daily practice. It offers the one opportunity to study the reactions of the ambulant patient. The success of a physician depends largely on his ability to impress the ambulant patient or the healthy man of the necessity for hygienic and preventive measures on which his health and efficiency may depend. The dispensary should be the center of a department of industrial

medicine. There are many questions which not only relate directly to the health of employees but have wide medical, social and economic importance which may best be approached through our schools of medicine.

In its relation to the medical profession the dispensary offers relief to the overburdened practitioner in affording attention to those patients for whom, with all the charity and good will in the world, he cannot care and at the same time do his duty to his other patients and to his own family; and it should offer to the practicing physician an opportunity from time to time to obtain for patients otherwise unable to afford it, the benefit of special refined methods of diagnosis and expert opinion.

In its relation to the public, the dispensary should offer an opportunity for those unable to pay for medical attention, to obtain that advice and care which the busy physician is unable to give. These patients pay for the care and advice which they obtain in two ways: First, by the time which they are obliged to give. The conscientious handling of large bodies of individuals demands time, and a dispensary consultation is timetaking to the patient. The patient pays for the services that the dispensary gives him by the agreement that the consultation may be so carried out as to serve for the instructions of students in medicine, undergraduates or graduates. The demand is steadily increasing that the properly organized dispensary should offer to physicians and through them to the public a clinic in which a thorough diagnostic investigation by competent physicians should be placed within the means of self-respecting and valuable citizens whose private resources forbid them from availing themselves of advice enjoyed by the rich and offered gratuitously to the poor.

The objects of clinical instruction in general are a study of diagnosis, beginning with the teaching and application of methods of physical diagnosis; the study of the natural history of disease, and the study of methods of therapy.

The well organized dispensary should be a little more than a mere outpatient department. It should have a certain number of beds for purposes of diagnostic study and for the temporary accommodation of patients following minor operations or diagnostic procedures. This would clearly increase the efficiency of the outpatient department from every standpoint.

The Dispensary in Its Relationship to the Public and to the Medical Profession of the Community

MR. MICHAEL M. DAVIS, JR., Chief of the Service Bureau on Dispensaries and the Community Relations of Hospitals of the American Hospital Association, New York: In following the program of the Council on Health and Public Instruction and Dr. Vaughan's paper, the thought came to me that a program for the development of the hospital which this section of the American Medical Association has put forward is in principle the same as the program for the dispensary in which I am interested.

The dispensary and hospital differ in detail as will be apparent, but from the standpoint of the essential relation to the subject in hand, namely, to the public and the medical profession, I can see no reason why it is not correct to say that a community hospital program, as outlined in its essence, is not a dispensary program at the same time. The hospital relates itself to the community as a form of medical practice, and the chief proposition which I desire to lay down in outlining certain parts of the subject is that the dispensary must be regarded not as a charity but as a form of medical practice. It implies the same thing that a hospital implies, namely, that the position of the community as a whole must be closely related to the institution. Modern medicine in developing specialism requires laboratory equipment, and the main organization must of necessity be within the institution that practices medicine, the hospital and outpatient department of the dispensary. These must be coordinated.

A second point is that the hospital and dispensary are a unit. Dr. Thayer touched on that in relation to the teaching dispensary. I will go further in the application of the dispensary and say that the outpatient and inpatient departments must be demonstrable units. The organization in the medical staff should be such that the medical staff of the inpatient and outpatient departments are one. The administration of the organization should be one. The patient is an inseparable unit, and no matter whether he passes through the hospital and dispensary back and forth under different names, he yet remains the same patient, with the same essential problems of guidance of the individual through a more or less serious crisis. Any government of the institution which has joint organization with both the inpatient and outpatient service is of importance. There are two points to be considered here: First, the medical profession represented on the staff of the institution must have complete control of the professional work. Second, the group of citizens representing primarily the interests of the community, and no highly specialized group, must have complete control of the public policy, and the professional work must have charge of the medical procedures as outlined in any organization. In education we have in the university a faculty, a dignified group of professional men and women. The board of trustees should not meddle with the subject matter and methods of instruction. This should be left to the faculty. The board of trustees taking advice from the faculty and from other sources has complete control of the general policy of the institution and of cases coming to the hospital and dispensary. That is important in view of the development of group practice. The group practice scheme, organized and directed by some body of men who are interested financially and medically in its work, is almost certain to run upon the rocks because it is inherently ill founded. An institution established as a hospital or dispensary is, must be devoted fundamentally toward rendering the best of service to the patient and public. Its policy must be directed toward looking after the interests of the community in which the medical and lay points of view are intertwined. The dignity and policy of the medical work must be preserved; the breadth and disinterestedness of the public policy must be preserved likewise.

In principle, the dispensary and outpatient department of the hospital must deal in treatment as well as diagnosis.

The development of a dispensary and hospital unit in its relation to the medical profession and the public requires close coordination among the different special departments with one another and particularly with general medicine. It is obvious that such a dispensary organization is a radical change in some respects from the dispensary organization which generally and formerly obtained. It needs a very much wider range of financial interest taken in the dispensary, a greater scale of fees such as we have in the hospital. I see no reason why a dispensary should not, as a form of medical practice, accept patients and render them the best service possible on exactly the same terms as they would patients in a hospital. There is no escape from the conclusion that this is the goal to which we are aiming, although I quite recognize that there are many steps toward attaining it. To serve as a member of the staff on the same terms as the Council on Health and Public Instruction is requiring that the community hospital shall be open to all physicians of the community, so that the dispensary must be open to all physicians in the community for the practice of medicine. You cannot open hospitals to the profession without giving remuneration for services rendered on a certain basis, nor can you open a dispensary without doing the same thing. The method of so doing is a long story. It has not been solved in any of the hospitals of the larger type satisfactorily.

Relation of the Dispensary to the Hospital

DR. JOHN E. RANSOM, Chicago: The more important aspects of the relation of the dispensary to the hospital may be captioned: (*a*) organization relationships; (*b*) staff relationships; (*c*) service relationships, including quarters and equipment; (*d*) financial relationships, and (*e*) community relationships.

Quite naturally the several relationships of the dispensary to the hospital depend largely on whether a given dispensary is a separate, independent, isolated institution or is the outpatient department of a hospital. In the former case the dispensary will, as a rule, have its own administrative control, staff, equipment, budget, community relationships and problems. Its relationships to hospitals will consist largely in some arrangement affecting the hospitalization of patients found by the dispensary to need hospital care and in the inter-

change of information concerning the transfer of patients from dispensary to hospital and vice versa.

Decided advantages are possible of attainment in the affairs of the outpatient department if there is a competent, intelligent, industrious and insistent committee of the hospital board to whom the fortunes of the outpatient department are entrusted.

With proper staff organization and with a degree of magnanimity rightly to be expected in associates and attending men, outpatient staff men need not lose all contact with or knowledge of the patients they refer from their clinics to the wards. Lack of this facility, however, has discouraged many a promising dispensary physician. Occasional joint meetings of hospital and dispensary staffs, both general and departmental, can be of great value to each group, each service and to the hospital as a whole. The importance of a staff member's responsibility for his outpatient and ward duties should not be differentiated by the hospital authorities.

The quarters, equipment, technical service, etc., available for a hospital outpatient department are in many instances wofully inadequate in relation to the volume of work demanded of the department and to the need for work of good quality. It is indicative of an increasing appreciation of the value of the outpatient service that the more recent hospital construction has made far more ample provision for outpatient clinical work. For the adequate and economical care of patients who need diagnostic or treatment service in both outpatient clinic and hospital ward, there is need for a far better articulation of these two parts of the hospital.

Outpatient medical service would be better if more money were expended on it. The dispensary lacking hospital connection usually has a great difficulty in adequately financing itself. The value and significance of dispensary service is almost unknown to the giving public, and as yet few dispensaries have found a way to secure the needed publicity and public interest.

In brief, one may say that the essential relationship of the outpatient department to the hospital is identification with it. They are one institution. Efficiency is largely measurable in relation to the approximation of this essential unity of the whole hospital.

DISCUSSION

DR. GEORGE DOCK, St. Louis: Dr. Thayer spoke of outpatients as not being ill enough for hospital service. That is an idea a great many people have, and it affects the application almost every day for positions in the outpatient department. I am trying to get men interested in the outpatient department. In a great many hospitals, perfectly well people go to them in order to find out what their physiologic condition is, and that is an important function of a hospital. The average patient who goes to the outpatient department has only some trifling illness. On the other hand, he may have angina pectoris and die in ten minutes, or he may have a beginning tuberculosis, and the difference between getting well and becoming a chronic invalid depends on the acuteness and interest of the physician. A patient may have a beginning acute exanthematous disease like smallpox, and be sent to the isolation hospital. Anybody who works in an outpatient department must be prepared to find anything from a mild to the most serious condition. Anybody with any degree of experience, whether a second, third or fourth year graduate, can learn something in the outpatient department. They learn more as the opportunities for learning are present, as the teachers are skilful, and the work is well done. Some people at present would like to take all third or second year men out of the outpatient department and put them in the wards to get their first training here. I look on that as a mistake, for the reason that in the ward, and then in the outpatient department, we ought to be teaching by doing. We do not cram theoretical facts into their heads, but give them opportunities for working. The opportunities in hospitals permit of slower work and the work that is done in a hospital very often results in leaving a man always a slow worker. In the case of men who come from schools where they have only inpatient service, they may be competent to give us adequate ideas regarding certain work; they are useless in the rush of practice either in hospital or private practice. In the outpatient department, the undergraduate should not be taught in a hurried or slipshod way, but I believe undergraduates can be taught certain things thoroughly. For instance, we do not teach the whole technic of case taking in the outpatient department. We leave that to the hospital. Undergraduates take the same sort of history that the average good physician takes in his office, a history sufficient for the purpose and checked up by an expert. I agree with Dr. Thayer and others that one of the problems at present is so to arrange the curriculum that the fourth year man up to the end may have adequate facilities for working in the outpatient department. There they can work with greater advantage than in certain special departments. They are not asked to do elementary work, to take routine histories, to examine laboratory specimens, to work in special clinics, like neurologic and psychiatric clinics, but to work more from the therapeutic side. In the third year we do not spend much time giving therapeutic instruction. We believe it is more important to learn something about the natural history of disease and its detection before they take up the problem of therapeutics.

The development of the diagnostic clinic is becoming more important with the increased cost of living, the increased cost of medical service, and the fact that a large number of people must get their medical diagnostic work in the outpatient department. It is of advantage to the community and the medical profession to see that they get it. The value of that work is not nearly as great as it should be, and that comes particularly from a lack of coordination between the diagnostic clinic and the doctors themselves.

DR. ARTHUR DEAN BEVAN, Chicago: This whole scheme of medicine begins with the fundamental purpose of educating and training properly the practitioner of medicine. Its ultimate aim is to bring the benefits of modern medicine to all people in all communities. Between that primary purpose and the ultimate object there are a number of agencies which play a very important part in this work, and many of these are more important than the hospital and dispensary. The hospital and dispensary are essentially one, and they play a very important part both in medical education and in providing the right sort of medical practice for the community.

I should like to emphasize what Dr. Billings brought out this morning, that the overshadowing figure in medicine should be the general practitioner or family physician. We must recognize that fact, and we shall be making a serious mistake if we get away from that conception. I believe a well trained general practitioner can take care of 80 or 90 per cent. of the people of the community much better than they can be taken care of by any group of specialists, by any dispensary or by any hospital. I do feel that the hospital and dispensary have an important function to fulfil, and the organization that they bring together of medical men and equipment is absolutely essential. I have no doubt that, taking a thousand people in a given community, a well trained family physician can be of greater service to them than ten specialists handling them, and back of any scheme of organization that can be devised that idea should be emphasized, and the importance of the general practitioner should be emphasized to the people in the community. In medical education and in large centers, a teaching hospital and dispensary become a very essential part of the work. In handling the dispensary as a teaching problem, it should be regarded simply as part of the hospital; it should be officered by the same group of men. I do not know of any other way to solve the problem except to have the same group of men work in the outpatient department that work in the hospital itself. There should be close cooperation between the two institutions. I agree with Dr. Dock that students should be put in the dispensary in their third year and in the hospital in the fourth year. The point made by Dr. Thayer that the senior student should go back into the dispensary is very sound.

In regard to the diagnostic clinic, I believe it is going to be developed. The medical profession should take the initiative in this matter, and not leave it to some other agency or the laity to take the initiative. In some places the government has taken the initiative in doing essentially the same class of work.

MISS IDA M. CANNON, Chief of the Bureau of the Social Service Department, Massachusetts General Hospital, Boston: In the education of medical students, I feel that there is

something real and vital to hospital social workers in such a relationship. My conception of hospital social work is that it has come as one of the practical, logical developments of organized medicine. We are seeing more and more a desire on the part of physicians to get evidence in regard to industrial injuries. Orthopedic patients are occasionally sent to us for braces, and we find growing girls with definite scoliosis whose condition in many instances bears a definite relation to unhygienic work. We also have cases of lead poisoning to contend with. You say, What has that to do with medical education? We have been trying to make treatment effective, trying to see that the medical work done in our dispensary is yielding results and bringing about happiness in the lives of the patients who come there. As time has gone on and we have been associated with medical institutions in which there was the teaching of medical students, we have been called on to bring some of this information to the clinics.

In the University of Indiana Medical Department, Dr. Emerson, conscious of the social side of medicine, has coined the term environmental medicine, and has insisted that students shall devote a certain amount of time to the social service department. Junior students have each week one lecture hour on social work and are required to make one or two visits to the homes of patients; and when clinics are held for medical students the evidence gathered by social workers from the homes and workshops is brought in as a logical part of the story. I like to think of the home as the workshop and the community in general as the social laboratory, to which medical teachers must look for evidence of certain conditions that are important in your understanding of patients, symptoms that are contributory to diagnosis, but more often definitely related to treatment.

At the Children's Hospital in Boston, under Dr. Lovett and others, they insist with regard to every case that is taken up with students, that a history from the social service department shall not only be presented verbally but entered on the medical record, and that a brief summary of the essential elements shall be put into the history chronologically, and definite recommendations as to treatment made from the social service point of view.

Dr. George E. Shambaugh, Chicago: I desire to emphasize two points: (1) The important function of the outpatient department is to provide proper care for a large number of our population who cannot afford to pay for expert medical service. (2) The outpatient department provides for medical education, one being more dependent on the other than we have appreciated. In order to fulfil either one of these functions there are several things necessary. The outpatient department must have proper equipment. When I undertook to rehabilitate the outpatient department of Rush Medical College I was impressed with the lack of proper equipment, and that was true of the other departments of the dispensary. It was true all over the country. They did not have the organization and equipment that exists in our hospitals. That is one reason the outpatient department is looked down on so much. Secondly, in order to get the work done properly in the outpatient department, it is necessary to institute in that department the same sort of system as that which exists in our hospitals. In order to take care of patients in a dispensary there is a great amount of routine work necessary in examining patients, in making proper records of the findings, etc. If this work devolves on a regular staff of men who are regular appointees of the department, they become tired and the work seemingly is unprofitable for them. They are interested in studying the more interesting cases. Routine work becomes much of a burden to them. In our hospitals this work is taken care of by a system of graduate instruction, the interns serving as graduate students are taking care of the routine work and are making our records in the outpatient department. If we organize the outpatient department properly and give them the proper equipment we have the same as for graduate students, we can accomplish what we are after. At Rush Medical College I undertook to institute a system of graduate students as assistants in the outpatient department. I applied this principle: If we want so many undergraduate students to take care of the outpatient department properly, exactly as in a hospital, we have so many graduate students, so many interns, who are necessary for taking proper care of the work in the hospital. In the outpatient department, graduate students should be limited to that number which can properly take care of the work that should be entrusted to these men. In our outpatient department we have eight men, two coming on each quarter. The outcome of this is that for the first time our patients are getting adequate care and attention. The attending men were tired of taking care of these patients, and they were sending them around to various hospitals, not willing to take care of themselves; hence a large part of the work was neglected, and now graduate students take care of all these cases. We have made it possible so that patients coming to the dispensary are now getting proper care. The work is being done by each one of the assistants under supervision. The regular attending men on the staff are finding their work immensely interesting. Why? Because a large part of the ordinary routine work is being done under the supervision of other men. We take care of eight men each year. If a dozen institutions would take care of the same number of men in otolaryngology, we should soon solve the problem of providing adequate training for such a number of men in this specialty to take care of all the legitimate otolaryngologic work in the country.

Dr. Frank Billings, Chicago: Dr. Shambaugh requires fundamental training before he takes these ex-interns. If they need special knowledge in physics and in physiology of the ear and throat, and knowledge of special anatomy and pathology of these parts he makes them go and get that knowledge first. This is fundamental in order to make a real specialist. They must have a foundation on which to build their clinical experience.

Mr. Alfred C. Meyer, President, Michael Reese Hospital, Chicago: I agree thoroughly with Mr. Davis in regard to unification of the outpatient department of hospital and dispensary as being desirable. Senior men of the hospital staff are not willing to go to the dispensary and do routine work. Dr. Shambaugh has pointed out how in one particular institution very valuable teaching connections are feasible; but, bearing in mind that senior men from the list of hospital staffs are not desirous of going into the dispensary, and that the average dispensary connected with a hospital has a much larger number of people to see than the hospital itself, it becomes apparent that the dispensary will be undermanned, and therefore it becomes necessary to add to the dispensary staff some men who are not a part of the hospital. In addition, there is a collateral reason why men outside should be added to the dispensary, particularly the younger men, and I think that Mr. Ransom brought that point out clearly.

Mr. Davis spoke of the ideal dispensary of the future. Two very vital facts were not mentioned, but I have no doubt that Mr. Davis agrees in the belief that these two points are necessary. First, I believe the ideal dispensary of the future should be an aggressive one. It should not handle conditions simply as they arise within the dispensary. Second, the social service department should be more aggressive. Miss Cannon used the phrase "environmental medicine," which I think is very pertinent, but I believe the pursuit of environmental medicine has to deal more particularly with the individual and not so much with the family, and the ideal dispensary of the future should be operated under conditions in which maladjustments should be corrected or reported by the social workers for correction.

There is one hospital at present where the members of the medical staff are discussing the advisability of establishing a diagnostic clinic either in the hospital or adjacent to it in which service shall be entirely voluntary and in which the net revenue shall be prorated in proportion to the amount of service the various physicians have rendered.

I think that Mr. Davis' clean-cut distinction between the lay control of the policy of the dispensary and the medical control in the actual management of the dispensary is excellent, and I am sure that every institution and every dispensary that has got away from this principle has done so to its regret.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

ALABAMA

Hospital News.—The Central Alabama Hospital, Clanton, was recently completed at a cost of $30,000. The building is three stories high, equipped with all modern improvements, with accommodations for sixty patients.——An addition is being built at St. Vincent's Hospital, Birmingham, at a cost of $100,000, and will comprise a roentgen-ray department, dining rooms and kitchens. The building will be four stories high.

ARKANSAS

New Hospital Association.—The counties of Ashley, Desha, Chicto, Drew and Bradley have recently organized the Southeastern Arkansas Cooperative Association for the purpose of establishing a $75,000 hospital near the Louisiana-Arkansas line.

New County Society.—At a meeting of the physicians of the county held at Heber Springs in February the Cleburne County Medical Society was organized, and the following officers elected: president, Dr. William J. Hornbarger, Heber Springs; secretary, Dr. Jasper T. Matthews, Heber Springs, and treasurer, Dr. Sheby A. Turner, Little Rock.

CALIFORNIA

Convicted of Violating Practice Law.—It is reported that Albert W. Richardson of San Francisco, head of a chiropractic college, was fined $300 recently for violating the medical practice act.——R. D. Young, chiropractor of Hollywood, was recently convicted of practicing medicine without a license.

Personal.—Dr. Ralph E. Maxwell has been appointed county physician of Stanislaus County to succeed Dr. John L. Hennemuth.——Dr. M. Lee O'Banion has resigned as health officer of San Benito County.——Dr. Joseph O. Chiapella was recently elected president of the Chico Health Council to succeed Dr. Newton T. Enloe.

Forest Officers Deputised Health Officials.—For the purpose of securing better sanitary protection on lands within the national forests, the California State Board of Health and the U. S. Forest Service have agreed to a cooperative plan, whereby the state board of health will deputize forest officers as sanitary inspectors with full power to enforce the state laws and to see that sanitary regulations are observed in the national forests by campers and others.

DISTRICT OF COLUMBIA

Prevention of Venereal Disease.—A measure for the detection, prevention, quarantine and treatment of venereal disease in the District of Columbia has been introduced in Congress by Representative Gilbert of Massachusetts. Examination of all suspected cases of infection by the health officer is provided with legal action in case persons so infected refuse examination. Physicians must report all cases within ten days for statistical purposes, it not being necessary for them to reveal the identity of their patients. Advertising of any remedy for treatment, cure or prevention of syphilis, gonorrhea or chancroid is made illegal in the District of Columbia.

GEORGIA

Physicians' Protective Association.—The physicians of Bartow County have planned to organize the Bartow County Physicians' Credit Association for their mutual protection.

Personal.—Dr. Andrew L. West, has resigned as city physician of Athens.—Dr. J. Whitridge Williams, professor of obstetrics, Johns Hopkins Medical School, Baltimore, delivered an address at a joint meeting of the Clarke County Medical Society and the Scientific Society of the University of Georgia, Athens, recently.

IDAHO

Personal.—Dr. Roscoe C. Ward has resigned as city physician of Boise. His successor is to be appointed later.

South Side Medical Society.—At the annual meeting of this organization, formerly known as the Pocatello County Medical Society, held recently at Twin Falls, the following officers were elected: president, Dr. Albert F. McClusky, and secretary-treasurer, Dr. Joseph N. Davis, Kimberly.

Reorganization of Medical Society.—At a meeting held at Boise, March 2, for the purpose of reorganizing the South Idaho District Medical Association, plans were made for the organization of the League for Conservation of Public Health in Idaho. Dr. Edward E. Maxey was elected temporary chairman, and Dr. Willis Frank Almond, temporary secretary of the association.

ILLINOIS

Licensure Investigation in Illinois.—The state's attorney of Illinois is making an investigation of charges that a ring of "fixers" is trafficking in physicians' licenses, pharmacists' certificates and other permits to practice the various professions. The report states that a vicious ring has been established which offers and succeeds in procuring licenses for those who are willing to pay the required fees. Governor Len Small has appointed a committee to investigate the charges. Following the launching of this investigation, it is reported that of 216 osteopaths and chiropractors who had filed their names for the examination which began March 28 only nineteen osteopaths and not one chiropractor appeared to take it.

State Health Department Notes.—In Mason City the school population is immune to smallpox. Dr. C. W. Cargill, district health superintendent, recently examined all schoolchildren in that community and secured the vaccination of all but two of those who were not already protected by successful vaccination. Altogether there were more than 500 children examined and more than 300 were vaccinated.——Dr. Isaac D. Rawlings, state director of public health, recently addressed two of Chicago's leading women's clubs on plans of the department of public health in reference to an infant welfare program, especially as it pertains to possible national funds that will probably be available under the provisions of the Sheppard-Towner maternity and child welfare act. Among other things, the director pointed out that the most pressing needs along these lines at the present time relate to more complete registration of births, a general campaign in favor of milk pasteurization and the establishment of better baby conferences and infant welfare stations. For the most part, these things are needed down state rather than in Chicago. As a result of the presentation of these facts, the two clubs concerned passed resolutions endorsing the plans and instructed the respective secretaries to so inform the Children's Bureau at Washington, D. C.

Chicago

Michigan Alumni Association to Hear Dr. Cabot.—The annual banquet of the Chicago Alumni Association of the University of Michigan will be held, April 7, at the Hotel La Salle. Dr. Hugh Cabot, dean of the medical faculty, University of Michigan, Ann Arbor, and President Marion Le Roy Burton, University of Michigan, will be two of the principal speakers of the evening.

Personal.—Dr. Charles A. Elliott, Chicago, delivered an address on "Disease of the Thyroid," at the meeting of the Galesburg Medical Society.——Damages of $15,000 were assessed against Dr. Franklin O. Carter, Chicago, March 9, in favor of Irvin Nilson for the loss of the sight of his eye through infection alleged to have been cause by an operation.——Drs. John Nuzum, Alton Ochsner and Louis Rudolph were kidnapped and robbed by motor bandits, March 17, and about $4,000 in jewelry and $100 in cash taken from them.——At a meeting of the Institute of Medicine of Chicago, March 24, Dr. Jacob Casson Geiger, U. S. Public Health Service, department of hygiene and bacteriology, University of Chicago, gave an illustrated lecture on "The Epidemiology of Botulism."——At the forty-eighth meeting of the Society of Internal Medicine, held March 27, under the presidency of Dr. Charles A. Elliot, Prof. George Neil Stewart, Western Reserve University, Cleveland, spoke on "The Adrenals, Fact and Theory."

INDIANA

Physician Acquitted.—A verdict of not guilty was returned March 15, by the jury in the case against Dr. Johnson P. Strouse, charged with performing an illegal operation, upon a patient, which, it is alleged, caused her death.

Typhoid Fever Compensable.—The appellate court of Indiana has decided that typhoid fever, contracted by an employee through drinking impure water furnished by the employer, is an "injury" by "accident arising out of and in the course of the employment" under the Workmen's Compensation Act, and as such is compensable.

Hospital News.—The contracts have been let for the erection of a new two-story addition to the Methodist Memorial Home, Lebanon.——Work will be started in May on the new Adams County Memorial Hospital to be erected at Decatur, at a cost of $100,000. The buildings will be ready for occupancy, January, 1923.——A new institution, which will be known as the Hansen Hubbard Old People's Home, will be erected at South Bend by the Evangelical Church. The plans call for an eighty-bed institution to cost approximately $150,000.——A new children's hospital will be erected at Rockville at a cost of $100,000.——A new hospital will be established in Indiana for the housing of all Indiana disabled veterans of the World War.

IOWA

Personal.—Dr. Ray Wycoff, Wapello, sailed January 7, for Porto Rico, where he will have charge of the Ryder Memorial Hospital in Humacao, under the direction of the American Missionary Association.

Psychopathic Hospital.—The new building at the State University of Iowa College of Medicine, Iowa City, has recently been opened to patients, with Dr. Samuel T. Orton as director. The institution was erected at a cost of $275,000, and will treat patients who are financially unable to pay for treatment at private institutions.

Annual Medical Clinic.—The State University of Iowa College of Medicine, Iowa City, will hold its annual clinic, April 11-12, under the direction of the faculty of the college of medicine. This clinic is not confined to alumni of the university. Prof. Anton J. Carlson, professor of physiology, University of Chicago, will give an address on endocrinology.

LOUSIANA

Leper Society.—The Louisiana Committee of the International Leper Society was formed in New Orleans, March 14, in response to a plea of W. M. Danner, secretary of the U. S. Leper Commission and of the American Missions to Lepers, an interdenominational church organization for social and religious work among leper colonies, which has branches all over the world.

New Health Boards.—The Jefferson Parish Board of Health was reorganized, March 8, with Drs. Marvin M. Odom, McDonoghville, and Dr. Joseph S. Kopfler, Kenner, as members of the board.——Drs. Joseph A. Estophina, L. A. Meraux and Dr. Louis A. Ducros have been elected members of the board of health of St. Bernard Parish.——Drs. Robert McG. Carruth and Maril O. Becnel, New Roads, and Dr. August B. Lacour, Batchelor, have been appointed members of the Pointe Coupee Board of Health.——Dr. Hubert S. Smith, Dr. Albert J. Meyer and Dr. Frank T. Gouaux have been elected to the board of health of Lafourche.

MARYLAND

Hospital News.—A new municipal hospital will be erected in the near future at Baltimore in the Hillen Road section, at a cost of $750,000.——A nurses' home will be erected at the University of Maryland, Baltimore, at a cost of $300,000, as the first unit of buildings to be constructed at an outlay of $1,250,000.——Bids have been received for the new building at the Union Memorial Hospital, Baltimore, which will cost approximately $1,000,000.——The contract has been awarded for a one-story addition to the Harriet Lane Home for Invalid Children, Baltimore, at a cost of $12,000.

MASSACHUSETTS

Maternity Bill Rejected.—The Senate refused to reconsider rejection of the bill to accept the Sheppard-Towner maternity bill by a vote of four to twenty-one it was recently announced.

Illegal Practitioner Sentenced.—It is reported that Wallace Baromas, Boston, charged with conspiracy to aid in unlawful practice of medicine in partnership with Don Carlos de Hinedesona, was sentenced to one month in the house of correction by Judge Logan recently. Hinedesona has disappeared. It was alleged that the men charged one patient $12.50 for a 10 cent bottle of vaseline and another $25 for a 75 cent belt.

New Veterans' Bureau.—A new subdistrict office of the U. S. Veterans' Bureau was opened at Lawrence, March 13, under the direction of Lieut. Edward Sirois. This local office will attend to most of the work of both Middlesex and Essex counties, and is part of the Boston district headquarters. Dr. Warren G. Pettingill, Haverhill, is in charge of the medical department, with Dr. Harold M. Allen as examiner. Consulting specialists will be: Dr. Charles G. Burgess, roentgen ray; Dr. Harry H. Nevers, surgery; Dr. Archibald McMillan, mental diseases; Dr. Benjamin E. Wood, Boston, orthopedics; Dr. Rolf C. Norris, heart and lung diseases, and Dr. William H. Merrill, eye, nose and throat.

Personal.—Dr. William G. Brousseau has been appointed city physician of Cambridge.——Dr. George E. McPherson, assistant state commissioner of mental diseases, has been appointed superintendent of the new Belchertown State School for Feeble-Minded Children.——Dr. Luigi P. Verde, Boston, has been made medical inspector in the city health department.——Dr. George Herbert Janes, Westfield, has been appointed a member of the board of registration in medicine.——Dr. James H. Means, Boston, delivered an address on "Clinical Types of Acidosis, with Reference to Their Symptoms and Treatment," before the medical section of the New York Academy of Medicine, March 21.

MICHIGAN

Hospital News.—It has been announced that the Children's Free Hospital, Detroit, and the Michigan Hospital School for Crippled Children, Farmington, will be merged. The combined assets of the two organizations, aggregating about $1,600,000, will be augmented by a gift of $1,000,000 from Mayor Couzens, recently announced. A new hospital will be built in the near future which will be thrown open to crippled children from every part of the state, and the old building of the Michigan Hospital for Crippled Children at Farmingham will be maintained as a convalescent home.——Construction work on the new Pennock Hospital at Hastings will be started in a few weeks. The institution will cost approximately $125,000.——A new hospital will be erected shortly at Ypsilanti.——Plans have been completed for the erection of a new tuberculosis hospital at Battle Creek.——The capacity of the Roosevelt Hospital, Camp Custer, will be enlarged at a cost of $40,000, from 120 patients to 420.

MISSOURI

Physician's Murderer Sentenced.—E. S. Jimmerson, who shot and killed Dr. Lloyd H. Brannon of Hayti, in September, has been found guilty of murder in the first degree and sentenced to life imprisonment.

Speakers' Bureau.—The St. Louis Medical Society has established a speakers' bureau, through which it is expected that lay organizations desiring physicians to lecture on public health questions may have a member of the society assigned to them, thus placing the responsibility for the publicity on the St. Louis Medical Society.

St. Louis Safety Council.—The health committee of the council has appointed the following physicians members of the advisory committee to assist in the work of educating the public in health protection: Drs. Walter H. Fuchs, Martin C. Woodruff, Hanau W. Loeb, Nathaniel Allison, Albert H. Hamel, Edward J. Goodwin, John Kennerly, J. P. Harper, E. Willette, and Major Louis P. H. Bahrenburg.

Jackson County Medical Society.—A prize of $10 has been offered to the member of the Jackson County Medical Society who supplies the best answer to the questions: Why should every ethical physician in Jackson County be a member of the Jackson County Medical Society? Why am I, an ethical physician, a member of the Jackson County Medical Society? It is intended that the answers shall be utilized for propaganda to attract new members to the society.

Personal.—Dr. Aden C. Vickrey, St. Louis, has been appointed superintendent of State Hospital No. 2, St. Joseph, to succeed Dr. Porter E. Williams, who has been transferred to the Missouri State Hospital No. 3, Nevada, to succeed Dr. Thomas B. M. Craig.——Dr. Louis Burlingham, St. Louis, has been elected president of the Missouri Hospital Association.——Dr. Herman E. Pearse, Kansas City, has been appointed a member of the city plan commission for a four-year term.——Dr. Mazyck P. Ravenel, Columbia, professor of medicine, University of Missouri School of Medicine, has been appointed chief associate examiner in public health for the National Board of Medical Examiners and member of the council for the district of St. Louis and also one of a

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committee representing the American Public Health Association, to cooperate with the organizers and directors of the proposed Gorgas Memorial Institute to be located in Panama. ——Dr. Wenzel C. Gayler, St. Louis, who has been confined to his home and incapacitated for nearly a year by a severe attack of neuritis has recovered and has resumed his practice.

NEW JERSEY

Midwifery License Revoked.—On January 26, the board of medical examiners revoked the license to practice midwifery of Frances Wachauf, having found her guilty, it is reported, of the practice of criminal abortion.

Hospital News.—A country home for the care and treatment of tuberculous patients will be erected at a cost of $25,000 by the Trades Union Anti-Tuberculosis Association of Newark.——Plans have been prepared for enlarging and improving St. Barnard's Hospital, Newark, at a cost of $115,000.

Illegal Practitioners Fined. — Vincent Napoliello and Giuseppe Chiarmida recently pleaded guilty to charges of practicing medicine without a license and were fined $200 each.——On Feb. 28, 1922, William Marsden, a chiropractor of Atlantic City, paid a penalty of $200 for violation of the medical practice act.

NEW YORK

Plattsburg to Have Laboratory.—David Merkel of Plattsburg has presented the city with $1,500 to be used for the establishment of a public health laboratory. The gift is to be a memorial to the donor's parents, Isaac and Jeanette Merkel. The laboratory will be situated at the Champlain Valley Hospital.

Investigation of Hospitals Commission.—At a meeting of the Erie County Medical Society, held recently at Buffalo, a resolution was adopted commending the investigation of the board of managers of the city hospitals and dispensaries. It was stated that after the investigation the society will be ready to aid in the reorganization of the present methods of caring for the sick poor.

Radio to Carry Health Lectures.—Dr. Hermann M. Biggs, state commissioner of health, announces that he will talk by wireless twice a week, beginning March 24, from a station at the General Electric plant in Schenectady. The health department officials believe that the wireless will be a useful medium in disseminating the best possible medical advice and counsel on health subjects to rural communities.

New York City

Harvey Society Lecture.—Prof. Raymond Pearl, professor of biometry and vital statistics, Johns Hopkins School of Hygiene and Public Health, Baltimore, will deliver the ninth Harvey Society Lecture at the New York Academy of Medicine, April 8, on the subject of "The Interrelations of the Biometric and Experimental Methods of Acquiring Knowledge; with Special Reference to the Problem of the Duration of Life."

NORTH CAROLINA

Personal.—Dr. John W. White has been appointed health officer for Wilkes County.

North Carolina Hospital Association.—At the annual meeting of the organization held in High Point, January 31, under the presidency of Dr. John T. Burrus, the following officers were elected: Dr. John A. Williams, Greensboro, president, and secretary-treasurer, Dr. James R. Alexander, Charlotte.

Social Service Conference.—The annual meeting of the state welfare workers was held at Greensboro, March 28-30, under the direction of Dr. Watson S. Rankin, who discussed "Revelations of the Draft Act and Their Meaning." Miss Jane Addams, Chicago, gave an address on "America's Relations to World Problems."

OHIO

Public Health Meetings.—A series of meetings on the subject of public health are being conducted in Urbana under the auspices of the Civic League. Dr. Wright, Columbus, delivered an address at the first meeting and showed the film "One Scar Too Many," and lectures and demonstrations on home nursing were conducted by members of the Red Cross.

Hospital News.—A site has been purchased by the state hygiene department at Warren, where a new hospital will be erected at a cost of $100,000.——Plans are being executed for the erection of a new hospital at New Lexington. Work will be started in a few weeks.——A new site will be purchased by the Westmoreland Hospital Association, Greensburg, for the erection of a modern home for nurses at a cost of $10,000.——A new hospital, for the treatment of cancer, will be erected in Columbus by Dr. Charles F. Bowner.

OREGON

Personal.—Dr. Walter E. Hempstead has been appointed a member of the pension examining board.——Dr. Esther Pohl Lovejoy, former city health officer of Portland, has recently returned from Europe, where she has been doing medical work at hospitals in Turkey, Armenia and Russia.——Dr. James K. Locke, Portland, has been reappointed by the governor as a member of the state board of medical examiners.——Dr. Ray W. Matson, Portland, has returned to that city after more than a year in France and Austria.

PENNSYLVANIA

Personal.—Dr. John W. Eckfeldt, Philadelphia, was tendered a reception on the fiftieth anniversary of his practice of medicine in the city and was the recipient of a grandfather's clock and $100 in gold.——Dr. Carolina S. R. Engelhardt will resign as superintendent of the Lansdale Sanatorium.

New Health Organization.—Health directors and members of eleven counties held a meeting, March 16, at Pittsburgh, under the presidency of Dr. Edward Martin, state health commissioner, to form a new organization of associated health boards which will be known as District Board of Health Association No. 4. Drs. Israel B. Reed, Pittsburgh, and Albert J. Bearer, New Kensington, were elected vice presidents of the association. Dr. Carey J. Vaux, director of the department of public health, Pittsburgh, delivered an address and Dr. J. Bruce McCreery spoke on "Diphtheria."

Philadelphia

Society News.—The following elections are announced: Philadelphia Neurological Society: Dr. Charles H. Frazier, president, and Dr. Sherman F. Gilpin, treasurer; Academy of Surgery: Dr. John H. Jopson, president, and John S. Rodman, secretary; Philadelphia Laryngological Society: Dr. Robert F. Ridpath, president, and Dr. Henry A. Laessle, secretary; Section on Ophthalmology, College of Physicians: Dr. McCluney Radcliffe, chairman, and Dr. Charles R. Heed, clerk; Urological Society: Dr. William H. Mackinney, president, and Dr. Sterling W. Moorhead, secretary; Academy of Medicine and Allied Sciences: Dr. William Harry Barnes, president, and Dr. John P. Turner, secretary; Association for the Prevention and Relief of Heart Disease: Dr. Joseph Sailer, president, and Dr. Samuel Calvin Smith, secretary.

SOUTH CAROLINA

Physician Acquitted.—It is reported that Dr. J. M. Manning, mayor of Durham, was found not guilty by a jury in the federal court recently on a charge of violating the Harrison Narcotic Law.

VERMONT

Vermont Hospital Association. — This association was organized in December at a meeting in Burlington. Dr. T. S. Brown, superintendent of the Mary Fletcher Hospital, Burlington, was elected vice president of the organization, and Dr. T. A. McCormick, superintendent of St. Albans Hospital, St. Albans, was elected to the executive committee. The next meeting will be held in September.

VIRGINIA

Appropriation for Medical School.—An appropriation of $30,000 a year additional has been adopted by the Senate, for the Medical College of Virginia, Richmond, to meet the financial crisis facing the institution, since the failure of the medical merger scheme.

WISCONSIN

Honor for Physician.—At a special audience granted by the King of Italy, Dr. Guiseppe A. Germano, Kenosha, was named a Knight of the Crown of Italy for services rendered during the World War.

Society Changes Name.—At a meeting of the Milwaukee Medical Society, held March 14, it was decided to change the name of the society to Milwaukee Academy of Medicine, owing to confusion of the Milwaukee society with the Milwaukee County Medical Society.

Personal.—Dr. Thomas J. Heldt, chemical director of Resthaven, U. S. Public Health Service Hospital No. 37, Waukesha, has resigned to accept a position with the National Committee on Mental Diseases.——Dr. Clarence J. Kenney, epidemiologist of the Milwaukee health department, has resigned, effective April 1.

CANADA

New Red Cross Journal.—The first issue of the *Canadian Red Cross* has recently been published by the Canadian Red Cross Society. The journal will be published monthly.

Hospital News.—A new wing will be added to the Grace Hospital, Toronto, which will give a capacity of two seven-room wards.——Construction work will soon be started on the war memorial hospital to be erected at Wallaceburg, Ont., at a cost of $50,000.

GENERAL

American Association of Industrial Physicians and Surgeons.—The annual meeting of the association will be held at St. Louis, May 22-23, the same week as that of the American Medical Association, under the presidency of Dr. Clyde E. Ford.

Proposed Legislation for Free Medical Treatment to Veterans.—Medical treatment by the Army, Navy or Public Health Service free of cost is given any person honorably discharged from the Army, Navy, National Guard, Marine Corps, Coast Guard, Public Health Service and Coast and Geodetic Survey as a result of injuries, sickness or wounds incident to their service for the country during any war by a bill introduced in Congress by Representative Crago.

Medical and Surgical Section of the American Prison Association.—The program for the Fifty-Second Congress of the American Prison Association, which is to be held in Detroit, October 19-24 next, will include meetings of a medical and surgical section. This section has been established to discuss the importance of the medical service in corrective institutions. The arranging of the program is in the hands of an executive committee, of which Dr. F. L. Dunham, 1111 North Eutaw Street, Baltimore, is the chairman.

Casselberry Prize Fund.—The Council of the American Laryngological Association reports that from this fund the sum of over $500 has accumulated. This amount is available for encouraging advancement in the art and science of laryngology and rhinology and the sum stated is now available in part or as a whole for a prize award or decoration, or for the expense of original investigation or research in the fields indicated. Those interested in securing further particulars should apply to Dr. Norval H. Pierce, 31 East Washington Street, Chicago.

British Medical Association to Discuss Social Aspects of Alcohol.—The section on medical sociology of the British Medical Association is arranging to present, at the meeting in Glasgow, a discussion on the use of alcohol in relation to lunacy, crime, industrial efficiency and youth. The officers of the section are anxious to have an American physician who is capable of discussing these problems present at the session. The president of the section states that arrangements may be made for the entertainment of such person while in Glasgow. Those interested may communicate with THE JOURNAL.

Survey of Supply of Medicinal Whisky.—State prohibition directors hereafter will have strict supervision of druggists' sales of whisky on physicians' prescriptions. Complaints have been pouring into the Internal Revenue Office from all parts of the country alleging that druggists in certain localities are demanding high prices for "doctored" whisky sold for medicinal purposes. State prohibition directors have been instructed to inspect the liquor business of permit holders and to make an analysis of their sales. Some of the complaints charge that it is a common practice for a certain type of druggist to sell for medicinal purposes liquors made out of grain alcohol and caramel coloring.

Medical Fellowships.—It has been announced by the National Research Council that fellowships in medicine have been established for the purpose of increasing the supply of qualified teachers in medicine in both clinical and laboratory subjects and in both curative and preventive aspects. These fellowships are supported by appropriations of the Rockefeller Foundation and the General Education Board amounting in total to $100,000 a year for five years. Those receiving awards will be known as Fellows in Medicine of the National Research Council. To qualify for appointment as a fellow, a candidate must have the degree of doctor of medicine or doctor of philosophy from an approved university, or preparation equivalent to that represented by one of these degrees. The fellowship is open to both sexes, but is limited to citizens of the United States and Canada. Fellows will be at liberty to choose the institution or universities in which they will work as well as the men under whose direction they will carry on their researches, subject to the approval of the board, which will be known as the Medical Fellowship Board of the National Research Council. Appointments are to be made for a period of twelve months, beginning at any time in the year, with an allowance of six weeks for vacation. The time may be extended, however, if in the judgment of the board the work which the fellow has done justifies it. Stipends are intended to enable the individual to live comfortably while carrying on his work.

Bequests and Donations.—The following bequests and donations have recently been announced:

Silver Cross Hospital, Joliet, Ill., the income from a $100,000 trust fund, and the Mary E. Lambert Home for Nurses, Joliet, the income from a $100,000 trust fund, by the will of Colonel J. Lambert, Joliet.

Grace Hospital, Detroit, a rest home for nurses on Elba Island, refitted at a cost of $40,000, to accommodate forty visitors, by Mrs. Henry P. Joy.

The Woman's Hospital, New York, $15,000, by the will of Mrs. Rosina E. Hoyt.

The Nassau Hospital Association, Nassau, L. I.; New York Infirmary for Women and Children; the New York Eye and Ear Infirmary; the Knickerbocker Hospital, and the New York University Dispensary, each $10,000, by the will of James H. Ottley.

General Memorial Hospital, New York City, $10,000; Manhattan Eye, Ear and Throat Hospital, $5,000; Woman's Hospital of the State of New York, $10,000, by the will of Jonas M. Libbey. The residue of his estate goes to Columbia University, as the "Jonas M. Libbey Fund" for research in biologic and pathologic chemistry, electrochemistry and electrophysics.

Georgia Infirmary, Savannah, $10,000; Telfair Hospital, Savannah, $2,000; by the will of Mrs. Louisa Porter Minis, of Savannah.

Good Samaritan Hospital, for negroes, Charlotte, a gift of $5,000, by Mr. J. B. Duke, Charlotte.

Wayne County Medical Society, Michigan, $3,000, by the will of Dr. Henry Cleland, which will be known as the "Henry A. Cleland Endowment Fund."

Mount Sinai Hospital, $2,500, and the Montefiore Hospital, New York City, $1,000, by the will of Leon J. Bamberger.

Women's Southern Homeopathic Hospital, Philadelphia, $500, by the will of James R. Maxwell.

University of Pennsylvania, Philadelphia, $275, by anonymous donor, will be added to the General Fund.

The Sturgis Convalescent Research Fund, an unspecified sum for investigation in heart disease, and nervous and mental disorders, by Mr. Frank Sturgis, the founder.

LATIN AMERICA

Personal.—Dr. José Arce, dean of the University of Buenos Aires, has returned from a trip abroad.——The *Revista Médica Veracruzana* mentions the return to Vera Cruz from New York of Dr. Gabriel Garzón Cossa. He has been taking a graduate course on parasitology at the Rockefeller Institute, and is to have charge of the course on parasitology in the Hygiene Institute at Vera Cruz under the auspices of the national public health service.

FOREIGN

Honor for Physician.—Dr. F. J. Paley, Hove, England, has been created a knight of the Papal Order of St. Gregory, in recognition of his work as a Catholic medical practitioner.

Robert Campbell Memorial.—The first memorial oration was delivered by Dr. Thomas Sinclair on "Surgery of the Blood," in February, at Belfast, with Sir John Alton Browne in the chair. Approximately $4,000 has already been subscribed to the fund.

Tribute to a Medical Journalist.—A banquet was offered in Madrid, by a number of medical admirers and friends, to Dr. Pedro Zuloaga of Valladolid, editor of *La Clínica Castellana* and the *Revista Española de Obstetricia y Ginecología*. Speeches were made by Drs. Ramos, Soler, Elices, Calatayud, Recaséns, and finally, Dr. Zuloaga.

Cancer Research.—Sir William Veno of England, who originally offered £10,000 for the discovery of a cure for cancer, has altered the conditions regarding the offer and will give £1,000 a year for ten years for cancer research.——Lord Atholstan of Canada, who recently offered $100,000 for the discovery of a cure, will also donate a like sum for research.

Irish Medical Schools and Graduates' Association.—The forty-fourth annual meeting of the association was held, March 16, in London, under the presidency of Major-General W. Kenny. The Arnott gold medal of the association was presented to Lieut.-Col. Robert McCarrison, M.D. Dr. J. A. Macdonald was elected president for the ensuing year.

American Woman Physician Aids Chinese.—It is reported from Shanghai, China, that Dr. Vivia B. Appleton, instructor in pediatrics, University of California Medical School, San Francisco, has recently returned to that city after having established a children's clinic in Changsha, Province of Hunan.

New Medical Society.—It has been announced by the New York office of the Near East Relief that Dr. M. E. Elliott, medical director of the Near East Relief Women's Hospital in Erivan, Armenia, has organized a medical society in that city, consisting of the twelve local physicians. Dr. Elliott has started a medical library in connection with the organization, containing Russian, French and English books.

Calcutta School of Tropical Medicine.—The governor of Bengal laid the foundation stone of the new School of Tropical Medicine at Calcutta, February 14. The Indian government donated $195,000 for the site and will contribute toward the upkeep of the institution. Owing to the prevalence of tropical diseases in India, the work of the laboratory will be chiefly the investigation of causes of tropical diseases in an effort to discover more accurate methods of diagnosis and more advantageous process of treatment.

South African Medical Societies.—At the annual meeting of the Durban Medical Society the following officers were elected: president, Dr. D. Mackenzie, and secretary, Dr. D. Murray.——At the annual meeting of the Natal Coastal Branch of the British Medical Association Dr. Copley was elected president and Dr. Radford was elected secretary.——The Witwatersrand Branch of the British Medical Association recently held its annual meeting and elected Dr. Charles Porter, president, and Dr. F. K. te Water, secretary.

University News.—An annual award of a gold medal, to be known as the William Hey Medal in Medicine and Surgery, has been donated to the University of Leeds by Sir Berkeley Moynihan. This award is in commemoration of Dr. Hey's work and will be given to the best student of the year in medicine and surgery.——Professor H. R. Dean has been appointed to the university chair of bacteriology at University College Hospital Medical School, London. Dr. Dean was formerly professor of pathology and pathologic anatomy, University of Manchester, and Horace Dobell lecturer at the Royal College of Physicians, London.

Spanish Congress on Public Health Reorganization.—Dr. Pedro Zuloaga, editor of the *Revista Española de Obstetricia y Ginecologia*, recently called attention to the need of holding a national congress on sanitary reorganization to consider obvious deficiencies in public health administration. The idea has met with approval and an organizing committee has already published the call to hold this congress as soon as possible. The officers are: Dr. Verdes Montenegro, president; Dr. B. Fortacin, vice president; Dr. A. Piga, second vice president; Dr. N. Calvin, accountant; Dr. Vital Aza, treasurer; Dr. Ramos Acosta, secretary, and Dr. R. Ramos, legal adviser.

Public Health in China.—A meeting was held in Shanghai in December for the purpose of organizing the National Health Association of China, under the direction of Dr. S. M. Woo. A program has been arranged which will include: (1) local health demonstrations; (2) a "health museum"; (3) a "health brigade," which will be established to answer epidemic emergency calls; (4) education of the young in the principles of health, and (5) research and information activities. The public health movement has for some time been promoted by the Rockefeller Foundation, the China Medical Board and the Council on Health Education, of which Dr. W. W. Peter is the American secretary.

Spanish Societies.—The Spanish Surgical Academy has appointed the following officers: president, Dr. J. S. Covisa; first vice president, Dr. M. Arredondo; second vice president, Dr. P. Cifuentes; secretary general, Dr. S. Carro; first secretary, Dr. S. Alvasán; second secretary, Dr. F. G. Triviño; treasurer, Dr. B. Castresana; accountant, Dr. A. Piga, and librarian, Dr. J. Sanchiz Banús.——The Spanish Gynecological Society has appointed the following officers: president, Dr. J. Bourkaib; vice president, Dr. J. Botella; second vice president, Dr. L. Recasens; secretary general, Dr. I. Moreno; recording secretary, Dr. J. Torre Blanco; vice secretary, Dr. F. Luque; librarian, Dr. J. de la Muela, and treasurer, Dr. A. Garcia López.

The Campaign Against Cancer at Lyons.—The *Lyon Médical* gives an account of the large public conference organized at Lyons by the Ligue Franco-Anglo-Américaine contre le cancer. It seems that the cancer death rate at Lyons is higher than elsewhere in the country, being 150 per hundred thousand inhabitants, while the general average for the country is 92. A branch of the Ligue was founded at Lyons, and an active campaign outlined. A donation of 10,000 francs from the central headquarters of the Ligue was followed by other donations from individuals, to a total of 52,000 francs. Among the speakers were M. Justin Godart, Prof. H. Hartmann of Paris and Bérard of Lyons, besides M. Lebret, secretary of the Ligue.

The Bretonneau Centennial.—The medical school of Tours, France, is planning to celebrate, June 24 to 26, the centennial of Pierre Bretonneau's teaching of specificity. He clearly stated the doctrine of specificity (germ theory), having noticed that the liquid secreted by the cantharis and other insects induced different kinds of lesions on the skin, and always specific for each. He also first described diphtheria and gave it its name, and differentiated typhoid, but his name for typhoid, dothienenteritis, was soon dropped. He was not connected with any university, but ten young men studied with him at the public hospital at Tours, and his correspondence later with two of them, Velpeau and Trousseau, is most interesting. The celebration is in charge of Dr. Dubreuil-Chambardel, Ecole de Médecine, Tours.

The German Council on Pharmacy and Chemistry.—THE JOURNAL mentioned last year the efforts of the profession in Germany to inaugurate work along the lines of the Council on Pharmacy and Chemistry of the American Medical Association and the somewhat similar body in the Netherlands. The Arzneimittel-Kommission, as it is called, has not been able to make much headway on account of lack of funds. At a recent meeting of the commission, the history of the efforts in this line was reviewed and physicians in general were appealed to for funds, Holste stating that if each physician would give 2 marks, each year, the work could be placed on a stable basis. He emphasized the advantages for the profession of such an institution, and stated that a number of communications reporting the results of investigations are now ready for publication in the medical journals. The commission is an offshoot of the German Gesellschaft für Innere Medizin. The seven members present at the meeting were Gottlieb, Heffter, Penzoldt, Romberg, Spatz and Stintzing, besides Holste.

Deaths in Other Countries

Dr. **Alfred Hill,** medical officer of health of Birmingham, England, died February 22, aged 95.——Dr. **Karl Schleich,** Berlin, surgeon, a pioneer in local anesthesia in 1894, aged 63.——Dr. **Bertram H. Kingsford,** England, died in january.——Lieut.-Col. **G. H. Le Mottée,** R. A. M. C., formerly director of the Military Hospital, Quetta, India, died in Guernsey, Channel Islands, January 18.——Dr. **Charles Drage,** physician to the Duke of Wellington, died recently, aged 97.——Dr. **George Wild,** justice of the peace, died recently in Bootle, England.——Dr. **Ossian Schauman,** professor of internal medicine at the University of Helsingfors, and a frequent contributor to medical literature, especially on diseases of the blood. A Festskrift had been compiled to present to him on his sixtieth birthday, but he died less than a month before.——Dr. **Barbosa Romeu, Jr.,** of Rio de Janeiro.——Dr. **J. F. J. Bloemen** of Tilburg, a prominent physician in his region of the Netherlands.——Dr. **E. Duval,** professor of surgery at the medical school at Rouen.——Dr. **H. Lindner** of Leipzig, aged 70.——Dr. **J. Heitzmann** of Vienna, co-author of the Atlas of Anatomy, aged 74.——Dr. **J. Saphier** of Munich, a pioneer in dermatoscopy, aged 37.——Dr. **W. Rüdin,** professor of gynecology at the University of Rostock, aged 61.——Dr. **P. Starke,** long in charge of part of the work of the Leipzig League.——Dr. **G. Pardo** of Parma, a member of the Nansen medical mission to Russia, succumbed recently to typhus.

CORRECTIONS

Aid for Pharmaceutical Research.—In THE JOURNAL, March 18, a notice was inserted to the effect that the American Pharmaceutical Association had established a research fund of $360,000. The amount was in error and should have been $360.

Medical Education.—In THE JOURNAL of March 18, page 821, Dr. N. R. Perkins is reported as stating that there is a Class A school in Massachusetts that fights every attempt made to enact legislation requiring hospital internship as a preliminary requirement for registration. Dr. Perkins states that this is incorrect and that what he did say was: "We have a Class C school which fights everything of that nature in the legislature."

Government Services

The Army Medical Bulletin

The publication formerly known as the *Medical-Military Review* is now to be issued in printed form under the title *The Army Medical Bulletin*. It is to be issued through the Medical Field Service School at Carlisle Barracks, Pa., and will not be issued regularly as was the former publication, but occasionally, as it becomes necessary to convey the material to medical officers.

Proposed Investigation of Veterans' Bureau

Representative Larsen of Georgia has presented a bill to Congress providing for an investigation by seven members of the House of Representatives of the operation of the U. S. Veterans' Bureau. There is a provision in the bill providing for an investigation into the increase of the personnel of the U. S. Public Health Service due to care and treatment of disabled veterans of the World War.

Bill for Marine Hospital at San Francisco

Senator Shortridge of California has presented a bill to the Senate providing for the erection of a marine hospital at San Francisco. The capacity of the proposed institution will be 300 beds. To cover the cost of obtaining the site and completing the buildings, $1,500,000 is appropriated.

Request Transfer of Hospitals to Veterans' Bureau

President Harding has been requested by the U. S. Veterans' Bureau to issue an executive order transferring about sixty hospitals caring for approximately 23,000 disabled soldiers from the U. S. Public Health Service to the jurisdiction of the U. S. Veterans' Bureau. The request was made in the interest of efficiency and economy, according to Director Forbes, that the Veterans' Bureau might have more close supervision and control of the patients for whom it is responsible. The matter was recently the subject of a conference with the national executive at the White House. No further legislation, it is maintained, will be necessary for a complete transfer of the hospitals.

Medical Training for Veterans

The Rehabilitation Division of the Veterans' Bureau announces that courses in medicine for trainees of the bureau, will, after March 18, be restricted to schools classified by the American Medical Association as Class "A" institutions; and courses in dentistry and pharmacy will be given only in reputable schools of approved standards. Before courses are prescribed in medicine, dentistry or pharmacy, the case will be submitted to a medical officer of the bureau for an opinion as to the proper classification of the school selected, and the medical officer will also signify the feasibility of the course outlined. Only those veterans who possess the necessary physical and educational qualifications will be authorized to take such courses.

Appropriations for Army Medical Department

The regular appropriations bill for the War Department was presented to the House of Representatives this week. It contains provisions for the operation of the Medical Department of the Army for the next fiscal year. The sum of $529,360 is appropriated for the repair of army hospitals, $213,520 for the Surgeon-General's Office, $7,500 for the Army Medical museum, $10,000 for the Surgeon-General's Library, $4,800 for the Medical and Surgical History of the War, $35,000 for furnishing artificial limbs for disabled soldiers, and $500,000 for sanitation, quarantine and medical service in the Panama Canal Zone; $250,000 is appropriated for pay of officers of the Reserve Corps of the Army, but a provision is included limiting the medical department to a single officer. This officer is Brig.-Gen. Charles E. Sawyer, the president's private physician. Additional officers and nurses of the Medical Reserve Corps may be called into active service to care for disabled war veterans, but their pay and allowances must come from the funds of the U. S. Veterans' Bureau.

Foreign Letters

PARIS

(From Our Regular Correspondent)

March 3, 1922.

The Physician's Responsibility

The civil tribunal of Havre was recently obliged to render a decision on a court action taken against a physician for two causes: (1) An error in diagnosis that caused unnecessary expenses in traveling and treatment, and (2) the thoughtless issuance of a certificate affirming the illness of a married woman which entailed a divorce action when the certificate became known to the husband. The tribunal rejected the first claim on the ground that an error in diagnosis cannot, in principle, entail the physician's professional responsibility if it cannot be proved that the error is due to his complete ignorance of medicine or to lack of knowledge of the elementary principles of prudence. The tribunal, however, took into consideration the issuance of the certificate and stated the motive of its judgment thus:

> The physician committed a fault in delivering a certificate that was demanded from him on account of his competence, even though he can attest the truth of the facts which came under his personal supervision, without inquiring as to the purpose for which the certificate has been asked and the qualification of the person asking for it. He must make inquiries to discover whether the document that he is about to deliver will not be used for blackmail, illegal internment, etc., if, finally, it will not be the cause of discords and troubles in a family or household, considering, also, that the party was married and that her husband was at the front. Under such conditions, the physician, who should have been aware of these facts, should necessarily have been the more cautious as the circumstances made the origin of the disease more suspicious; he should have tried to seek the motives that the woman had in mind in asking a certificate and realize the consequences that might result on the issuance of the document. By delivering a certificate to a married woman without the knowledge of her husband, the contents of which could cause discord between husband and wife, as is the case in this particular instance, the physician committed a fault for which he owes compensation.

Consequently, the tribunal condemned the physician to pay damages for the injury done. This case emphasizes the need for prudence in issuing a medical certificate and for securing information regarding the motives and ascertaining what the party intends to do with the certificate.

Award of a Prize to Dr. Charles Vaillant

The Academy of Moral and Political Sciences has awarded the Audiffred prize of 15,000 francs, for acts of self-sacrifice, to Dr. Charles Vaillant, director of the radiographic service at the Lariboisière hospital.

The Sale of Autovaccine by Druggists

The manufacture of vaccines and serums is regulated in France by the law of April 25, 1895, restricting their manufacture to laboratories especially authorized by the government and on advice from the Academy of Medicine. Taking this law as a basis, numerous druggists have expressed doubt as to their right to prepare autovaccine in their own laboratories. The question has been solved by the direction of public welfare and hygiene of the ministry of the interior. The law of 1895 aims at stock preparations that can be found in drug stores, hospitals, etc. The law applies as well to serums and vaccines obtained by sterilization or attenuation of cultures, or so-called stock vaccines. But this cannot possibly apply to autovaccine which, in each particular case, has to be prepared on the order of a physician, who furnishes the pathologic products from which the micro-organism shall be isolated. Consequently, autovaccines must be considered as preparations made by a bacteriologist, under the physician's supervision, in whom the physician has full confidence and whose services he makes use of under his own responsibility. Autovaccines are not sold in the ordinary sense of the word;

they are specially prepared for a certain patient and should not fall under the law of April 25, 1895.

The Centennial of General Paresis

As mentioned in a previous letter (THE JOURNAL, Sept. 3, 1921, p. 801), the three societies of mental medicine of Paris have decided to organize in Paris a meeting of psychiatry to commemorate the centennial of the thesis in which Bayle, in 1822, described for the first time the clinical picture of general paresis. The committee on organization has decided to avail itself of the presence in Paris of numerous colleagues who will be present at the session of the Société médico-psychologique and at the general assembly of the Association des aliénistes de France, May 29, 1922, and to devote May 30 and 31 to the celebration of the centennial. Under the presidency of Dr. Toulouse, president for 1922 of the Société médico-psychologique, the two days will be devoted to a review of the history and present conception of Bayle's disease. The meeting will be international, and neuropsychiatrists from allied and friendly nations, as well as French alienists and neurologists, will be invited to participate. The following communications will be presented to serve as the basis of discussions: (1) Bayle's predecessors, Dr. Laignel-Lavastine and Vinchon; (2) Bayle and the works of the school of Charenton, Dr. Semelaigne; (3) general paresis after Bayle; dual personality in general paresis; insanity in paresis; dementia in paresis; the works of the Salpêtrière school, Dr. Arnaud; (4) present conceptions of general paresis (etiology, Dr. Pactet; pathologic anatomy, Dr. Lhermitte; clinical and medicolegal study, Dr. Réné Charpentier); (5) treatment and assistance, Dr. Truelle. The membership fees of 40 francs may be sent to Dr. Raymond Mallet, treasurer, 284, Boulevard Saint-Germain, Paris.

Visit of French Physicians to Spain

To acknowledge the visits made in France by Spanish physicians during the war and since 1919, French physicians will journey to Spain in April, under the auspices of the Franco-Spanish committee and the schools of medicine of Bordeaux, Lyons, Montpellier, Paris and Strasbourg. The itinerary will include the cities of Barcelona, Valencia, Madrid, Toledo, Valladolid, Burgos and San Sebastian.

LONDON

(From Our Regular Correspondent)

March 13, 1922.

The Report of the Radium Institute

In the annual report of the Radium Institute, the medical superintendent, Mr. A. E. Hayward Pinch, reviews the work done since its foundation, which covers a period of rather more than ten years. He is thus able to furnish an estimate of the therapeutic value of radium based on wide experience. During the period, 7,750 patients have been dealt with and nearly 100,000 treatments administered. He divides the cases into four classes: (1) Those in which cure, either complete in the case of the nonmalignant, or apparent in the case of malignant disease, may be confidently expected. This class includes chronic eczema, seborrheic eczema, lichenification, cavernous nevi, keloids, papillomas, keratomas, corns, rodent ulcer, lymphosarcoma, and sarcoma of the nasopharynx. (2) Those in which great benefit may be expected: psoriasis, xanthelasma, xeroderma pigmentosum, Fordyce's disease, leukoplakia, capillary nevi, spring catarrh, lupus erythematosus and vulgaris, tuberculous adenitis, vicious cicatrices, Dupuytren's contraction (early), exophthalmic goiter, parenchymatous goiter, splenic and lymphatic leukocythemia, lymphadenoma, mediastinal tumors, epithelioma of the skin, cornea, vagina and urethra (female), carcinoma of the breast, uterus, bladder, prostate and thyroid, sarcoma (excluding endosteal), endothelioma, angioneurotic edema, and arthritis deformans (early infective cases). (3) Those in which the result is doubtful, some cases responding very well while similar ones fail to show any improvement: pruritus, neuralgia, neuritis, epithelioma of tongue, mouth, fauces, larynx and esophagus, carcinoma of the stomach, intestine and rectum, myeloma, melanoma and glycosuria. (4) Those in which radium is practically useless: Dupuytren's contraction (late), kraurosis vulvae, adenomatous goiter, osteitis deformans, acromegaly, cysts, lipomas, enchondromas, osteomas, endosteal sarcomas, syphilis, locomotor ataxia, disseminated sclerosis, pyomyelitis and paralysis agitans.

By far the greater number of patients applying to the Radium Institute suffer from malignant disease, which usually is advanced and inoperable or has recurred after operation with no possibility of further surgical interference. To use the term "cure" when discussing the radium treatment of such cases would be unwarrantable; but results have been obtained in the arrest of the progress of the disease which improve the general health and comfort to a degree that cannot be excelled, and is rarely equaled, by any known medical or surgical measures. At present the institute has records of many patients suffering from recurrent inoperable malignant disease, who first presented themselves for treatment seven or ten years ago, and who now lead useful, comparatively healthy lives, the disease having been rendered quiescent by the treatment.

With increasing experience it has been possible to augment the dosage greatly. In the early days of the institute, a dose of 3,000 mg. hours was considered large; now it is common to give from 20,000 to 30,000 mg. hours, and, if judiciously administered, this entails little systemic disturbance. Considerable advances have been made in the treatment of such conditions as carcinoma of the prostate, bladder and uterus, mediastinal tumors, splenic and lymphatic leukocythemia, lymphadenoma and tuberculous adenitis. Results are now obtained far more striking than were at first anticipated. The chief problem to be solved is the treatment of deep-seated growths to which there is no adequate approach by the natural channels; but improvements in technic are being devised from time to time which are slowly but steadily lessening the difficulty. For widespread conditions, roentgen rays are considered preferable to radium, as in generalized psoriasis, the early stages of cancer *en cuirasse*, generalized infection of the peritoneum, and cystic disease of the ovaries. For these conditions an enormous amount of radium, mounted on numerous applicators, would be necessary to irradiate the whole area, while it can be easily done with a roentgen-ray tube. On the other hand, to give an intense dose over a small area, as in rodent ulcer, small superficial epitheliomas or recurrent nodules after excision of the breast for carcinoma, radium should be used, as by means of emanation applicators a powerful dose may be given to a very small area. In certain situations, such as the cavity of the uterus, bladder, larynx, esophagus, stomach and rectum, it is almost impossible to give an adequate dose of roentgen rays, but radium can be effectively used. Though physicists consider the gamma rays of radium analogous to the hardest cathodal rays of a roentgen-ray tube, clinical experience tends to show that there must be some difference, as frequently cases of lichenification, rodent ulcer and lupus vulgaris do not respond to roentgen rays but yield promptly to radium.

New Medical School in Africa

The Sudan government has decided to start on the building of premises for a school of medicine at Khartoum (attached to the department of education) to be organized under the

Kitchener memorial scheme. The aim of the school is to train students for the medical corps of the Egyptian army and the Sudan medical department, and as general practitioners. Hitherto the Sudan has relied largely on Egypt and Syria for physicians, and it is felt that the new school will supply a much felt want. It is hoped that the building will be completed next year.

Dr. Benjamin Moore

Benjamin Moore, D.Sc., F.R.S., professor of biochemistry in the University of Oxford, has died at 55 from heart failure following influenza. Educated at Belfast and University College, London, where he worked as a pupil of Sir William Ramsay in the chemistry department; he became a teacher of physiology in the medical school of Yale College, New Haven. Returning to London he was appointed lecturer on physiology in the medical school of Charing Cross Hospital. One of the pioneers of biochemistry, to which he devoted most of his energies, he was appointed to the first chair in that subject established in this country, the Johnston chair in the University of Liverpool. In 1920 he was appointed professor of biochemistry in the University of Oxford. He was one of the founders of the *Biochemical Journal*. His scientific work was of much importance. He investigated photochemical synthesis, showing how organic compounds were formed from inorganic in the presence of inorganic colloids. He proved that fresh water and marine algae, without the aid of bacteria, can in summer fix nitrogen from the atmosphere. He brought forward evidence that the active oxygen of fresh country air is not, as had been supposed, ozone but nitrogen peroxid, probably due to ultraviolet light causing the oxygen and nitrogen to unite. His last work was entitled "Biochemistry, a Study of the Origin, Reactions and Equilibria of Living Matter." He was also much interested in medico-sociological subjects, and wrote a book entitled "The Dawn of the Health Age," which attracted much attention.

BELGIUM

(From Our Regular Correspondent)

March 4, 1922.

The International Congress of Medicine and Pharmacy as Applied to Military Affairs

The standing committee of the First International Congress of Medicine and Pharmacy as Applied to Military Affairs met Feb. 20, 1922, in the Military Hospital of Brussels, under the presidency of Inspector General Wibin, all the members being present except Mr. de Fonseca, the delegate from Brazil. The six countries represented were: United States, Bainbridge; Italy, Mauri; France, Uzac; Switzerland, Thomann; Spain, van Baumberghen, and Belgium, Voncken (secretary). It was unanimously decided to hold the meeting of the second congress in Rome, in May, 1923, when the following questions will be discussed: 1. Sanitary evacuations: (*a*) the general principles of evacuations of armies in the field; (*b*) organization of evacuations, and a consideration of the irreducible minimum of therapeutic needs; (*c*) adaptation of medical and surgical therapeutics to the diverse conditions imposed by the necessity of proceeding with evacuations. 2. Collaboration of civil and military authorities in matters of social hygiene, physical education and prophylaxis (statistics on social diseases: tuberculosis, venereal diseases, alcoholism, mental defects; methods of securing secret information; concerted prophylactic action, vaccination). 3. A critical study of the processes of disinfection and disinfestation in times of peace and war. 4. Treatment of thoracopulmonary wounds and their sequels. In addition, a pharmaceutic question has been proposed: the chemical laboratories in the army; their rôle; their methods.

Reorganization of the Red Cross of Belgium

The physicians of Belgium have been intensely interested of late in the reorganization of the Red Cross. This society had marked out for itself a series of tasks in a gigantic campaign amounting to the assumption by the Red Cross of Belgium of a semi-official position and making it practically a ministry of hygiene. This vast enterprise could not take shape except after many heated debates, as a consequence of which Dr. Depage was obliged to give up the presidency of the Red Cross. Public opinion became aroused over the matter and Dr. Depage consented to resume charge. He published recently an outline of the program to which he has committed himself. It includes: 1. In time of war: (*a*) to lend its aid to the army medical corps, and (*b*) to contribute to the alleviation of the sufferings of the victims of war, both civilian and military. 2. In time of peace: (*a*) to organize, in conformity with the instructions of the department of national defense, such sanitary units as the Red Cross will be expected to furnish in time of war; (*b*) to contribute toward the improvement of public health; (*c*) to aid in the hospital treatment of patients; more especially, of those suffering from transmissible diseases and occupational lesions, such as victims of accidents; (*d*) to take an active part in all movements for the protection of childhood, and (*e*) to aid the victims of a catastrophe or public calamity.

In time of peace it will concern itself mainly with questions of social hygiene, such as the campaign against tuberculosis and all forms of epidemic diseases. It will occupy itself with child welfare, will relieve the distress occasioned by industrial accidents and will interest itself in the health of the people in general. The Red Cross of the future will not hold itself aloof from any form of social endeavor, any form of social responsibility, but it is its duty to organize and coordinate all expressions of the humanitarian instinct in man, in order that all such promptings of the human heart may be directed in proper channels and an efficient general program be secured. The Red Cross should support the societies already founded for the aid of the sick when they seem to be functioning in an efficient manner, but it may become its duty to found others, with the aid of the Comité Médical, when public health demands it.

The Propaganda of Hygiene

The Red Cross has recently published a pamphlet that sets forth in a graphic way the ensemble of hygienic problems that confront the present day and generation. The future of ten Belgian children is illustrated by a diagram based on actual vital and social statistics. Of ten prospective mothers, only eight will give birth to a living child. Of these eight children, two will die before they reach the age of 20, while two will be sick or in such poor general condition as to be excused from service in the army. Thus, after the lapse of twenty years, there will be only four defendants of their country—four efficient producers. When the age of forty is reached, death will have claimed one survivor and of those four who at 20 were still robust one will have become infirm. Of the ten children who should have been born in health and should have grown to healthy manhood and womanhood, only two now remain!

In order to counteract this state of affairs, the Belgian Red Cross promulgates these "ten commandments": (1) possess and spread a knowledge of hygiene; (2) save the children; (3) fight against tuberculosis; (4) fight against alcoholism; (5) fight against slum life; (6) fight against unhealthful occupations; (7) fight against poverty; (8) consider the health aspects of the situation before we marry; (9) establish in every community a hygienic service, and (10) create health centers where all forms of crusade for the promotion of the general welfare may be centralized.

BUDAPEST

(From Our Regular Correspondent)

Feb. 7, 1922.

Legal Decision that Insanity Is Disease

A case of considerable interest to physicians has been decided by the high court of justice. A lumber mill clerk became incapacitated for work from sickness, which in course of time culminated in insanity, and this required his removal to an asylum, where he was confined for two or three years. The sickness club of which he was a member refused assistance to the family on the ground that the man was suffering, not from bodily disease, but from insanity. After the examination of many witnesses, including a number of medical men, the court decided that the man's inability to work was not due to bodily sickness in the ordinary and natural sense of that term, but was due to insanity. The court reached this decision with considerable difficulty, as the rule of the society applying to bodily sickness was rather awkwardly expressed. The judge hoped, however, that the society would see its way to render the family more assistance from its charity fund. The decision of the court, on appeal to the high court of justice, was overruled, and judgment brought against the club.

Syphilis Among Physicians

At a meeting of the medical society, Nekam reported that recently he had treated several medical men for syphilis contracted in the course of their calling. Most of the primary effects were on the fingers, and they had been treated as whitlows until the torpid appearance and granular swellings and exanthem had pointed to the true character of the disease. Once the primary disease was on the ear, which had been scratched before coming in contact with the infecting material. In two cases there was no primary disease, the infectious material passing directly into the blood when the finger was pricked with an injection needle. In 1905, Blaschko of Berlin reported twelve similar instances. As a preventive, surgeons should perform every operation and make every gynecologic examination as if the patient were syphilitic. Vaginal injection should be made, and in suspicious cases the finger should be protected. The smallest wound should be looked after. Many of these wounds were the consequence of too vigorous rubbing with brushes and disinfectants. If the skin was delicate, disinfection might be limited to washing with soap and hot water. If the hands were thoroughly washed after touching suspicious material, they would not so readily bear infection, even if excessive disinfection was not resorted to before the contact. Rubber gloves also might be used.

Incontinence of Urine in Children

Incontinence of urine in children is observed almost always in children from 3 to 10 years of age; some have it diurnally as well as nocturnally, but others, and they are most numerous, urinate simply at night. According to Dr. Bokay, professor of pediatrics at the University of Budapest, these children belong to the degenerate and neuropathic type. It can be said that the commencement of this neurosis is the hyphen between first and second childhood; it is the persistence of the habits of infancy and the results from derangement of the nerve centers. The trouble manifests itself by atony of the sphincter added to the spasmodic contraction of the muscle of the bladder, a true spasm, independent of the will. If such is the affection, an antagonist should be opposed; an antispasmodic must be chosen, and atropin is indicated in preference to belladonna, which is much less active, or to rhus aromaticus, which does not always succeed. Dr. Bokay employs Guinon's method of prescribing a 1 per cent. solution of atropin sulphate to be taken (by a child, aged 6) in doses of 5 drops three times a day in a tablespoonful of sweetened water, and increased by 1 drop each time until 10 drops are reached.

Nongonorrheal Urethritis

Dr. Adolf Erdös of Nagyvarad has reported a series of cases of nongonorrheal urethritis. They were characterized (1) by the long stage of incubation (from five to sixteen days); (2) by the mildness of both objective and subjective symptoms (slight itching or burning in the fossa navicularis, a plug of secretion that was washed away by the pressure of passing urine, or a few with many pus threads in generally clear urine); (3) by the very chronic course; (4) by the entire absence of gonococci, and (5) by the failure of the usual modes of treatment. The prognosis was, therefore, bad. Some of the cases had been watched for a year, in two without any improvement taking place. These patients had never had gonorrhea or syphilis; they showed no sign of tuberculosis, and suffered from neither phosphaturia nor oxaluria. No micro-organisms that would be considered specific were ever found, nor could any be cultivated. Three of the patients married, one of them was the father of two children, and the wife had remained healthy. Dr. Erdös reports on three other cases in which gonococci were never found, but large quantities of micro-organisms of the group of pseudodiphtheritic bacilli were present. These were distinguished from the former cases by the short stage of incubation (from three to four days) and the circumstance that the symptoms were mild, and recovery took place quickly. Finally, nongonorrheal urethritis might be set up by chemical or mechanical irritation of the urethra, of which class he had seen four cases.

The Siberian Giant

A man named Kazanloff, recently exhibited in Hungary, is said to be one of the largest men alive, and is probably one of the tallest men of whom authentic record exists. He is 34 years of age, his height is 9 feet and 3 inches (282 cm.), and he is built in proportion to his height. Thus, his hand is 1 foot, 1 inch (33 cm.) from finger tip to wrist; his foot is 1 foot 9 inches (53 cm.) long; his chest measurement is 56 inches (142 cm.); the circumference of his head is 25 inches (63.5 cm.) and his weight is 208 kg. (458 pounds). To support this huge frame, he eats an amount that would satisfy four others of good appetite. In four meals in the course of the day he consumes 4 or 5 pints (from 2,000 to 2,500 c.c.) of milk, from fifteen to twenty eggs, 3 or 4 pounds (from 1.3 to 1.8 kg.) of meat, five or six loaves of bread, large quantities of potatoes, beans and other vegetables, 2 or 3 liters (from 4 to 6 pints) of wine, and 5 or 6 liters of beer. These quantities appear to be well attested, as do the measurements of his proportions; but the fact that arrests attention particularly in the accounts of the giant's habits is the enormous amount of sleep that he needs. Normally he passes a large portion of the day in slumber, and he has been known to sleep for twenty-four hours on end. Even when awake, his movements are slow and deliberate, and he is inclined to doze off when left alone, the only stimulus to exertion being the cravings of hunger, which are said to be acute.

It is impossible in the light of recent researches on gigantism to regard this prodigious specimen of humanity as a mere "freak." He must be the subject of pathologic change, probably in the pituitary body. The condition of general symmetrical gigantism gradually developing is not in all points like true acromegaly, but is closely allied to it. The prognosis with regard to longevity cannot be said to be bright. Kazanloff has now left for his fatherland, Siberia, where he intends to help his parents in farm work.

BERLIN

(From Our Regular Correspondent)

March 2, 1922.

The Prevention of Arsphenamin Injuries

The opposition which for some time has been manifest toward the unrestricted administration of arsphenamin has been strengthened by the increasing number of marked injuries that have been reported of late as due to arsphenamin treatment. In addition, we hear of repeated observations that the remedy does not bring about the prompt and permanent effect that its inventor and its supporters have maintained. For this reason, the Council of Health of the empire felt called upon to give to physicians, recently, "Suggestions for the Use of Arsphenamin Preparations," which were published in the *Deutsche medizinische Wochenschrift* **47**:1566 (Dec. 22) 1921, and elsewhere. Furthermore, the Prussian Council of Health, on the basis of detailed reports from the Breslau dermatologist Professor Jadassohn and from the Berlin dermatologist Professor Buschke, discussed the subject thoroughly at a special meeting. The meeting was not public, for which reason I cannot give a report of the proceedings. Then, again, at a meeting of the Berlin Medical Society, held recently, a thorough discussion of arsphenamin problems was entered upon, following communications on the subject presented by Professor Heffter, director of the Berlin Pharmacologic Institute, and by Professor Arndt, director of the Berlin Dermatologic Clinic.

Professor Heffter pointed out that arsphenamin preparations are substances of very peculiar constitution, which oxidize readily in the air and thus become more toxic. Therefore, great care is necessary, since an invisible cracking of the ampules in which the arsphenamin is enclosed may bring about such oxidation. Also the solutions, especially neo-arsphenamin solutions, oxidize easily if allowed to stand a short time. Therefore, the preparation and sale of solutions in drug-stores has been prohibited. The establishment of a maximal dose, which is demanded more particularly by the opponents of arsphenamin, Heffter regards as unnecessary, as a maximal dose would not prevent the physician from exceeding it, as he could do so by placing in his prescription an exclamation point after the excessive dose. Since, in the case of arsphenamin, the physician has the administration of the dose in his own hands, there seems to be no reason for establishing a maximal dose by official act.

Professor Arndt occupied himself mainly with the fatalities occurring after the use of arsphenamin, which in recent years have increased to an alarming degree. As long as, in connection with arsphenamin treatment, which he designates as marking an epoch in the progress of syphilology, the untoward secondary manifestations were only transitory and fatalities were of rare occurrence, they were accepted as a matter of course, since the action of the remedy, in the main, was so excellent. In the period from 1914 to 1918, Arndt observed four deaths following the use of arsphenamin in the Strasbourg Clinic.

After Arndt moved to Berlin, he did not observe any fatalities during the first two years (1919 and 1920), but in 1921 twelve fatal cases came to his attention, and in eight of these the patients had received their injections in his clinic or policlinic. Besides the twelve fatal cases, which presented, partly, cerebritis, acute atrophy of the liver and acute general dermatitis, he witnessed eleven further cases of severe dermatitis which healed but left the patients weak for a long time. In these cases, partly arsphenamin and partly mercury had been used. The so-called arsphenamin icterus he observed 280 times in 1920-1921, and at least 231 of the cases were traceable to arsphenamin. This arsphenamin icterus was relatively more frequent in connection with tertiary syphilis. Arndt recommends, therefore, that arsphenamin be reserved for primary and secondary cases with manifest symptoms.

Arndt states that the excellent service that arsphenamin renders will not be discredited by warning against overdoing the matter. Early latent syphilis Arndt no longer treats with arsphenamin, and tertiary syphilis only in severe cases in which energetic treatment is imperative. He regards it also as useless or impracticable to treat late latent syphilis for years with arsphenamin when the only symptom present is the positive Wassermann reaction. The size of the dosage of arsphenamin, not only of the single dose but also of the total dosage, is still a matter of much controversy. But all these considerations furnish only relative protection. These precautions will prove unavailing if mistakes occur in the process of manufacture or if the preparation undergoes changes after it has left the manufacturer's hands. It is significant that certain ampules numbered consecutively by the manufacturers have produced several cases of untoward secondary manifestations leading to severe illness and even death. Therefore, Arndt recommends that the sale of arsphenamin be put under state control.

Professor Dr. Kolle of Frankfort-on-the-Main, the successor of Paul Ehrlich, opened the general discussion of the problem. He mentioned the fact that the testing of arsphenamin had been put on a much stricter basis since the accidents from its use had become more frequent. Except so far as unauthorized speculators may have distributed stale products, the chemical and biologic investigations have unearthed no cause for the increase in arsphenamin accidents. Attempts to produce more stable preparations have so far proved unsuccessful. Kolle regards neo-arsphenamin as an especially stable product. Animal experiments on rabbits with respect to so-called abortive treatment have shown that with large doses of arsphenamin and with half the fatal dose of mercury the sterilization of these animals can be effected in 100 per cent. of the trials. If the treatment is not begun until thirty days after the onset of the infection, sterilization is accomplished in only half of the cases, from which fact it becomes evident that the early treatment of syphilis is of the greatest importance and that the administration of arsphenamin is the main thing, since thereby the causative organisms are killed. The discussion of this exceedingly important problem is to be continued through several sessions of the society.

Work of the Consultation Centers for Patients with Venereal Disease, 1919-1920

The number of consultation centers for venereal disease in Germany had grown by the end of 1920 to 164. In that year, 110,000 persons sought advice in these consultation centers, as compared with 33,000 in 1918. The largest number of applicants visited the consultation centers of the Landesversicherungsanstalt Sachsen, for it is in Saxony that we find the largest percentage of persons engaged in manufacturing industries. In 1920, 40,000 cases were reported by the patients themselves, 21,000 by physicians, 18,000 by health insurance societies, 15,000 by hospitals, 3,000 by the military authorities and 7,000 from other sources. Of the persons reported in 1920, 29,000 men and 19,000 women were found to be suffering from syphilis; 20,000 men and 8,500 women from gonorrhea; 15,000 men and 12,000 women from syphilis and gonorrhea; 1,067 children under 14 years of age from syphilis; 496 children from gonorrhea; 5 children from syphilis and gonorrhea, and 5,000 adults and 85 children under 14 from some other sexual disease. In towns of more than 5,000 inhabitants, sexual disease constituted 79 per cent. of the notifiable diseases, while in the smaller towns the percentage was only 21. However, the percentage of

sexual diseases in the smaller towns was increased last year. Of the persons given treatment for venereal disease, 22,000 had not previously received treatment for such disease. The cost of maintaining the consultation centers amounted to about 3,000,000 marks per year.

Personal

Professor Orth, who for many years was head professor in the department of pathologic anatomy, having, for reasons of health, resigned the office of chairman of the Berlin medizinische Gesellschaft, Professor Kraus, director of the second Medizinische Klinik, has been chosen as his successor. For the first time since the medizinische Gesellschaft was founded, this selection was not effected without a struggle, owing to the fact that Kraus is not popular with all members of the society. This post has from time immemorial been regarded by Berlin physicians as of special importance, not only because the Berlin medizinische Gesellschaft is the largest scientific medical association in Germany, counting, as it does, about 1,800 members, but also because the office, since the founding of the association, has been held by such men as Albrecht von Graefe, B. von Langenbeck, Rudolf Virchow, E. von Bergmann, Senator and Orth.

Prof. Dr. Julius Morgenroth, department director in the Robert Koch Institute, has been awarded the annual prize of the Aronson Foundation.

February 22 was the hundredth anniversary of the birth of the Heidelberg clinician Adolf Kussmaul, now deceased. In memory of the event, numerous special articles appeared in the medical press, in which, as, for example, in the *Deutsche medizinische Wochenschrift*, various incidents in his life that were of general interest were brought out.

Professor Sauerbruch, director of the Munich Surgical Clinic, has been awarded the Kussmaul prize for his contributions to medicine, in connection with the celebration of Kussmaul's hundredth birthday anniversary. The Heidelberg medical faculty bestows this prize every three years on a German physician in recognition of some approved therapeutic method that he has introduced. Sauerbruch received the prize chiefly on account of the Sauerbruch arm, which was constructed by him.

The Disappearance of Influenza

According to a report issued by the local health insurance society (*Ortskrankenkasse*) of Berlin, the number of persons incapacitated from work on account of influenza has materially decreased. January 3, the number of influenza cases was put at 2,005; but on February 23 the number had dropped to 176. The present epidemic of influenza, which appears to be coming to an end, has not equaled in the number or the severity of the cases the epidemic of 1918.

Marriages

WILLIAM MARCO SHEPPE, University, Va., to Miss Olive Bow Harris of Albermarle County, Va., February 22.

DELL W. VAN GILDER, Denver, to Miss Erna Louise Knippenberg of Cleveland, Ohio, at Denver, February 16.

JOHN M. HENDERSON to Mrs. Martha Spencer Warburton, both of Williamsburg, Va., February 28.

REMALDO VINTON ELLIS, Ketchikan, Alaska, to Miss Mary Myhre, in Seattle, recently.

LEROY HARRISON BAILY to Miss Theresa Cogswell, both of Los Angeles, December 31.

WILLIAM A. LUCAS, Pulaski, Va., to Miss Mary Trent, Knoxville, Tenn., March 1.

ZEBULON VANCE SHERRIL to Dr. Carolyn A. Clark, both of Marion, Va., February 9.

AUGUST E. KROENING to Mrs. Mary L. Baker, both of Sioux City, Iowa, March 11.

Deaths

Charles J. Jessop ● Kittanning, Pa.; Jefferson Medical College, Philadelphia, 1874; president of the Armstrong County Medical Society; president of the Kittanning Board of Health, and director of the U. S. Pension Board; founder and chief surgeon of the Kittanning General Hospital; died, March 8, aged 70, at the Western Pennsylvania Hospital, Pittsburgh, as a result of a fall.

Jacob Eaton Bowers, Duluth, Minn.; University of Michigan Medical School, Ann Arbor, 1869; formerly superintendent of the Rochester State Hospital, Rochester, Minn., and connected with the state school for the mentally deranged, St. Peter; died, February 23, aged 80, at the St. Luke's Hospital, following an operation on a fractured patella.

Frank Herbert Jenckes, Woonsocket, R. I.; Medical Department of the University of the City of New York, 1887; member of the Rhode Island Medical Society, and the Rhode Island Ophthalmological and Otological Society; died, March 13, at Buenos Aires, Argentina, where he had gone for his health, aged 51, from heart disease.

Eugenius Augustus Hildreth ● Wheeling, W. Va.; University of Pennsylvania, Philadelphia, 1905; served during the World War, captain, M. C., U. S. Army; specialized in ophthalmology, otology, laryngology and rhinology; died, March 11, aged 41, at the Ohio Valley General Hospital, Wheeling, from pneumonia.

Homer Brandel Smith ● Lancaster, N. H.; Medical School of Harvard University, Boston, 1903; served during the World War, major, M. C., U. S. Army; formerly served in a government hospital, Boston, the Boston City Hospital and the Children's Hospital, Boston; died, March 12, aged 44.

Michael Henry Etcheverry, San Francisco; College of Physicians and Surgeons, San Francisco, 1902; formerly adjunct professor of clinical medicine at the College of Physicians and Surgeons, San Francisco; was found dead in his office, March 1, aged 42, from heart disease.

Frank Kennedy Holman, Sumter, S. C.; University of Pennsylvania School of Medicine, Philadelphia, 1901; member of the South Carolina Medical Association; was found dead, February 23, in his bathroom, from phenol poisoning, presumably self-inflicted, aged 46.

Belle J. Mcdonald ● New York City; Willamette University Medical Department, Salem, Ore., 1886; formerly national chairman of the public health committee of the American Medical Association; died, February 11, aged 66, at Palermo, Sicily.

James Matthews Knowlton ● Youngstown, Ohio; Boston University School of Medicine, Boston, 1893; member of the Medical Society of the State of Pennsylvania; specialized in surgery; died, February 28, aged 54, from a poison taken by mistake.

Charles Marvel ● Richmond, Ind.; Jefferson Medical College, Philadelphia, 1891; member of the American College of Surgeons; member on the staff of the Reid Memorial Hospital, Richmond; died, March 5, aged 57, from angina pectoris.

Roy Boyd Harrison, Nashville, Tenn.; Vanderbilt University Medical Department, Nashville, 1921; member of the Tennessee State Medical Association; intern at St. Thomas Hospital, where he died, March 3, aged 25, from pneumonia.

Walter Kendrick Quackenbush, Argyle, Wis.; Albany Medical College, Albany, 1895; member of the State Medical Society of Wisconsin; died recently from a hemorrhage, following tonsillectomy, aged 52.

Ralph E. Conger, China Spring, Texas; Tulane University of Louisiana School of Medicine, New Orleans, 1897; member of the State Medical Association of Texas; died, March 1, aged 58, from heart disease.

Lowell Thomas Mahon, Toledo, Ohio; Rush Medical College, Chicago, 1886; was found dead in his room at a hotel in Sandusky, Ohio, March 12, aged 60, from acute alcoholism and opium poisoning.

Frederick Augustus Wicker ● Livonia, N. Y.; University of Buffalo Department of Medicine, 1888; died, February 25, aged 55, following an operation for appendicitis, at a hospital in Rochester.

● Indicates "Fellow" of the American Medical Association.

James Whillidin Ware, Cape May, N. J.; Jefferson Medical College, Philadelphia, 1895; formerly resident physician of the hospitals at Phoenixville and Greenville, Pa.; died, March 15, aged 53.

Nathaniel C. E. Guth, Allentown, Pa.; University of Pennsylvania School of Medicine, Philadelphia, 1873; member of the Medical Society of State of Pennsylvania; died, March 16, aged 71.

William Hall Thomas, Steeles Tavern, Va.; Baltimore Medical College, Baltimore, 1889; member of the Medical Society of Virginia; died, March 11, aged 63; from cerebral hemorrhage.

Frederick Lincoln Johnson, Stanton, N. J.; College of Physicians and Surgeons, Baltimore, 1889; member of the Medical Society of New Jersey; died, March 8, aged 57, from pneumonia.

William Lawrence Cuthbert, Long Beach, Calif.; Rush Medical College, Chicago, 1862; veteran of the Civil War; formerly health officer of Long Beach; died, March 10, aged 91.

Charles B. Willis, Huntington, N. Y.; Medical Department of the University of the City of New York, 1858; served during the Civil War with the rank of major; died, March 15, aged 89.

Joseph Evan Brunson, Ninety Six, S. C.; University of Georgia Medical Department, Augusta, 1892; member of the South Carolina Medical Association; died, February 20, aged 72.

Samuel Irving Myers, Bayonne, N. J.; Medical Department of Columbia College, New York City, 1878; member of the board of education; died, March 5, aged 69, following a long illness.

Ulysses Grant Strieby, Brownington, Mo.; University Medical College, Kansas City, 1892; member of the Missouri State Medical Association; died recently, aged 56, from pneumonia.

Alvin Elizur Barber, Bethel, Conn.; Berkshire Medical College, Pittsfield, 1854; member of Connecticut State Medical Society; health officer of Bethel; died, March 3, aged 91.

William T. Williams, Teague, Texas; College of Physicians and Surgeons, Keokuk, Iowa; formerly of Nebo, Ill.; veteran of the Civil War; died, February 17; aged 80.

Llewellyn G. Klepinger, Dayton, Ohio; Medical Department of the University of Cincinnati, 1901; member of the Ohio State Medical Association; died, March 11, aged 51.

Norman Fitch Chandler ● Medford, Mass.; Medical School of Harvard University, Boston, 1888; member of the New England Pediatric Society, died, March 6, aged 62.

Frank B. Wilkes, Houston, Texas; Memphis Hospital Medical College, Memphis, 1888; member of the State Medical Association of Texas; died, March 12, aged 61.

Henry John Webber, Auburn, Maine; Dartmouth Medical School, Hanover, 1895; member of the Maine Medical Association; died, March 5, aged 53, from heart disease.

Reuben T. Ramsey, Gretana, Va.; College of Physicians and Surgeons, Baltimore, 1879; member of the Medical Society of Virginia; died, February 28, aged 64.

Norman C. Davis, Badger, Minn.; College of Physicians and Surgeons, Keokuk, Iowa, 1884; was found dead in his drug store, March 5, from heart disease, aged 65.

Thaddeus Marshall Brooks Cross, New York; Bellevue Hospital Medical College, 1868; died, March 15, aged 82, at the Peter Bent Brigham Hospital, New York.

Francis Charles Floeckinger ● Taylor, Texas; University of Graz, Austria, 1895; former city health officer; died, March 6, aged 48, from cerebral hemorrhage.

John Josiah Joseph Mazza ● Bangor, Pa.; Medico-Chirurgical College, Philadelphia, 1910; died, March 12, aged 33, at the Easton Hospital, from chronic nephritis.

Leander Warren Combs, Becket, Mass.; Philadelphia University of Medicine and Surgery, Philadelphia, 1866; died, March 10, aged 80, from pneumonia.

Jesse Alfred Nash, Plantersville, Miss.; University of Louisville Medical Department, Louisville, 1907; died in March, aged 39, from appendicitis.

William A. Wildman, Butlerville, Ind.; Medical College of Ohio, Cincinnati, 1884; member of the Indiana State Medical Association; died recently, aged 68.

William Haynie, Buffalo, Texas (years of practice); member of the State Medical Association of Texas; Confederate veteran; died, March 8, aged 79.

George MacMurphey, Ortonville, Minn.; Bellevue Hospital Medical College, New York City, 1878; died recently, aged 69, from cerebral hemorrhage.

Eaton Kittredge McNeil, Santa Rosa, N. M.; Medical Department of Columbia University, Washington, D. C., 1894; died, March 9, aged 53.

John Everett Booth, Daisy, Okla.; University of Dallas Medical Department, Dallas, 1902; died, February 9, aged 43, from cerebral hemorrhage.

James Renick Kincaid, Frankford, W. Va.; Medical College of Virginia, Richmond, 1878; died, January 11, aged 67, from pernicious anemia.

William Virginius Brockinton, Kingstree, S. C.; University of Georgia Medical Department, Augusta, 1888; also a druggist; died, March 9.

William C. McDowell, Springfield, Mo.; Hahnemann Medical College, Philadelphia, 1878; formerly of Chicago; died, March 20, aged 66.

William Franklin Blair, Tacoma, Wash.; Medical Department of Western Reserve University, Cleveland, 1885; died in February, aged 64.

Harvey Bowers, Sugar Grove, W. Va.; University of Maryland School of Medicine, Baltimore, 1893; died, March 2, from pneumonia.

Ida Clarke ● Youngstown, Ohio; Woman's Medical College of Pennsylvania, 1878; died, March 3, aged 68, in Atlantic City, N. J.

Oscar Roi Hardy, Los Angeles; Northwestern University Medical School, Chicago, 1912; died, March 5, aged 41, from heart disease.

Edward N. Crawford, Cecilton, Md.; College of Physicians and Surgeons, Baltimore, 1874; died, March 4, aged 70, from appendicitis.

Alexander W. Wheeler, Cleveland, Ohio; Bellevue Hospital Medical College, New York City, 1863; died, January 28, aged 80.

Charles W. Arthur ● Plattsburg, N. Y.; University of Vermont College of Medicine, Burlington, 1865; died, March 2, aged 77.

William Kamp ● Belleville, Kans.; Albany Medical College, Albany, 1882; formerly mayor of Belleville; died, March 7, aged 65.

John D. McKenzie, McKenzie, Tenn.; Vanderbilt University Medical Department, Nashville, 1886; died, March 1, aged 78.

Benjamin J. French, Waco, Tex.; Georgia College of Eclectic Medicine and Surgery, Atlanta, 1898; died, March 4, aged 68.

Alton Sawyer ● Augusta, Me.; Jefferson Medical College, Philadelphia, 1878; died, March 1, following a long illness, aged 73.

James Jeter Glenn, York, S. C.; Medical College of the State of South Carolina, 1910; died, March 1, aged 34, from pneumonia.

John Ogden Johnson, Hudson, Ill.; Eclectic Medical Institute, Cincinnati, Ohio, 1887; died, March 6, aged 64, from dropsy.

William Anthony Cooling ● Wilton Junction, Iowa; Rush Medical College, Chicago, 1899; died, March 17, aged 49, from pneumonia.

Martin P. Brown, Davenport, Iowa; College of Physicians and Surgeons, Keokuk, 1887; died suddenly, March 9, aged 66.

George Wentworth Tait, Goldonna, La.; Memphis Hospital Medical College, Memphis, 1892; died, February 16, aged 65.

James N. Roland, Chester, Ga.; University of Georgia Medical Department, Augusta, 1904; died, February 9, aged 42.

Gustav P. W. G. Keitz, New Orleans; Medical College of Louisiana, New Orleans, 1880; died, January 19, aged 73.

Milton A. Henry, Saline, La. (licensed, Louisiana, years of practice); died, March 1, aged 79, from senility.

Burnett C. Vorhes, Columbus, Ohio; Medical College of Ohio, Cincinnati, 1881; died, March 5, aged 67.

George Mantell Allen ● Cincinnati; Miami Medical College, Cincinnati, 1881; died, March 3, aged 72.

William A. Shriver, Virden, Ill.; Eclectic Medical Institute, Cincinnati, 1871; died, March 12, aged 77.

Frank Paris Eldridge, Greenview, Ill.; Rush Medical College, Chicago, 1878; died, March 5, aged 68.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE JOURNAL'S BUREAU OF INVESTIGATION, OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER GENERAL MATERIAL OF AN INFORMATIVE NATURE

LEAVEN'S ASTHMA PRESCRIPTION

This preparation is put on the market by the Leavengood Drug Company, Rosedale, Kan.; Clyde Leavengood, president. Advertisements in newspapers that are not too particular about their advertising pages, notify the public: "Asthma Cured By Simple Remedy"; that a "famous druggist discovered this simple remedy." The "famous druggist" is Mr. C. Leavengood; he made the "discovery" thirty years ago.

"Mr. Leavengood feels so confident that his prescription will cure in all cases that he generously offers to send a big bottle on ten days' free trial."

In the advertising matter that is sent to those who answer the advertisement, one learns that the "discovery" of the "famous druggist" came about in this wise: Thirty years ago a man presented a prescription at the Leavengood Drug Store; the identity of the doctor who wrote the prescription "cannot be traced." The man was "CURED" and other asthma sufferers who heard of this and were unable to find the doctor "frantically sought the Leavengood Drug Store to get some of the medicine." The prescription had been lost but, fortunately for the sufferers—and Mr. Clyde Leavengood—the proprietor of the Leavengood Drug Store remembered the formula!

The usual batch of testimonials from laymen is forthcoming. There is also featured (in the approved "follow the arrow" style) an order for the nostrum sent in by Dr. A. L. Haight of Crystal Falls, Mich. Because of the number of inquiries about this product, an original specimen of "Leaven's Asthma Prescription" was submitted to the A. M. A. Chemical Laboratory for analytic purposes. The laboratory report follows:

"An original specimen of Leaven's Asthma Prescription was examined. The package contained about four fluidounces of a dark brownish-red, syrupy liquid, having a neutral reaction to litmus and an odor suggestive of a mixture of oils of sassafras and wintergreen. On evaporation of an ether extract of the preparation, a distinct odor like oil of spearmint was observed. The preparation had a harsh, disagreeable, but somewhat sweet, taste, resembling that of potassium iodid in syrup. Iodid, potassium, sucrose (cane sugar), a trace of iron and an unidentified yellow dye were detected by qualitative tests. Alcohol, alkaloids, ammonium salts, heavy metals, emodin-bearing drugs, phosphates, salicylates, sodium salts and sulphates were absent. The absence of alkaloids excludes the presence in the preparation of such drugs as hyoscyamus and the opium derivatives, substances sometimes employed in the treatment of asthma.

"Quantitative examination indicated that the composition of Leaven's Asthma Preparation put out by the Leavengood Drug Company, Rosedale, Kansas, is essentially as follows:

"Potassium iodid	10.9 gm.
"Sucrose (cane sugar)	55.0 gm.
"Iron	a trace
"Water, flavoring and coloring matter to make	100 c.c."

It is evident from the analysis that a solution of about 48 grains of potassium iodid in a fluidounce of simple syrup would have whatever anti-asthmatic properties are possessed by "the most remarkable asthma remedy ever known to mankind" discovered by the "famous druggist" of Rosedale, Kansas.

FORTUNES ARE MADE

Registered Trade-Marks are more valuable than Patents. Books have been written on the subject of Vitamines. Millions of dollars' worth of free Newspaper, Periodical and Magazine space has been allotted to the description and therapeutic value of Vitamines. Millions in Profits can be made in the Patent Medicine Industry. We will sell our Trade-Mark "Tono-Vitamine," Reg. U. S. Pat. Office—the first and only Registered Trade-Mark containing the word "Vitamine"—to the highest bidder. Either to an individual Capitalist or a Corporation. If you are interested, address all communications to Mr Charles A. Suhr, Secretary, The Suhr Med. Co., 589 Spring St., West Hoboken, New Jersey.

The present interest in and lack of knowledge of the vitamins make these substances a potential gold mine for the "patent medicine" exploiter. Here is reproduced photographically (somewhat reduced) an advertisement appearing in the *Druggists Circular*, March, 1922. The Suhr Medical Co. has a name for sale! As has been emphasized so often, when one buys a "patent medicine," he buys a *name*, and not a *thing*. "Tono-Vitamine," as a thing, is negligible; "Tono-Vitamine," as a name, is property to be bartered and sold. Incidentally, the Suhr Medical Company appears in the Propaganda files as the exploiters of "Anti-Gonic Tablets" and "Nova Nura Capsules." These are advertised in the *Police Gazette*; the former to "Rid your system of Gonotoxins." "If you haven't been good, now be careful"; the latter, for the "Restoration of Lost Manhood."

EKSIP

This is a mail-order "cure" for diabetes marketed by one Matthew Richartz. The advertising slogan of Richartz is: "No More Dieting! No More Starving! 'Eat and Get Well.'" According to the advertising patter, Eksip is the discovery of "the famous Dr. Stein-Callenfels." This famous individual, we are told, had wonderful success in treating diabetes with his discovery "Eksip." Unfortunately, "just as his fame was being spread throughout Europe" Stein-Callenfels died. On his deathbed he bequeathed Eksip to the brother of Matthew Richartz, who in turn, has made Matthew the "sole proprietor and distributor of this valuable preparation in America."

Eksip comes in tablet form and the price asked is $6 for 200 tablets. The directions are to take two or three tablets a day:

"When you order and take 'Eksip' as directed, no diet list whatever is given. You are directed to eat what you need and to take the tablets as directed—that's all."

The advertising booklet states that the diabetic may even eat candy if he feels impelled to! There is the usual batch of testimonials from laymen; there is also one from Dr. Edmund Kolb of New York City. No information is given regarding the composition of Eksip, except that the booklet states, uninformatively, that it is "a palatable compound of time honored medicinal herbs." A preliminary examination of Eksip was made in the A. M. A. Chemical Laboratory which reported:

"The bulk of the tablets consist of magnesium carbonate and starch. A small quantity of an unidentified drug was found. It was not determined whether this was of vegetable or animal origin. Alkaloids, heavy metals and emodin-bearing drugs were absent.

"The preparation is not identical with the Eksip (also a diabetic remedy) examined by Mannich and Kather in 1915 (*Ap. Ztg.* **30**:240, 1915). This was a liquid containing an extractive from an unidentified drug and a considerable quantity of free hydrochloric acid."

Nutrition.—Health is a condition of soundness of a living organism. It is wholeness—a state of being in which all the natural functions are freely exercised without consciousness of any of them.—I. S. Wile, *Hospital Social Service*.

Correspondence

THE LOGICAL TEACHING OF MEDICINE

To the Editor:—Before placing a hospital on its list of institutions approved for internships, the Council on Medical Education and Hospitals is accustomed, I believe, to satisfy itself by careful inquiry that the hospital possesses the necessary facilities, staff and organization to do the required work. To this end, competent persons are sometimes called on to testify to the hospital's fitness. If similar inquiries were made in order to test the fitness of medical schools to carry on undergraduate teaching, what would be the result?

I ask this question in all seriousness, after reading The Journal's account of the discussion that took place at the recent Annual Congress on Medical Education, Licensure, Public Health and Hospitals. The participants in the discussion are men who are responsible for the administrative policies of medical schools, yet not one was prepared to maintain that medicine is being satisfactorily taught anywhere. With this testimony many will be inclined to agree.

What, in brief, is the nature of current medical teaching? The medical student is first introduced to the fundamental sciences—biology, chemistry and physics. Next he is taught physiology and anatomy. He learns about the normal human body, its structure and function. If, at this point, it were possible to ignore tradition, the medical educator would be tempted next to direct the attention of the student to health conservation or preventive medicine. If the promotion of physical well-being is the aim of medicine (the "prevention, cure and alleviation of disease," in dictionary parlance), would it not seem to be logical, after familiarizing the medical student with the healthy body, to show him how, during infancy, childhood, adolescence, maturity and old age, the vigor of the body can best be maintained? Time would be well spent in the study of the manifold dangers that threaten infancy, that lurk in the path of youth, that frustrate and embitter age, in all the walks of life. But how many medical schools today undertake broadly to teach health conservation?

The space allotted to hygiene and the various aspects of health conservation in the current medical curriculum is almost negligible. Passing lightly over these subjects, the student is conducted all too quickly to the clinic and the postmortem room. And when finally, in the hope of rounding out his practical training, he enters the hospital as an intern, his mind is firmly set toward the more dramatic phases of disease and injury. In the hospital, fully half the time and attention of the intern is claimed by major surgery—a useful, indispensable, and life-saving art, but one which, if carefully appraised, would probably be found to embrace from one thirtieth to one fiftieth of the potential usefulness of medical science, broadly conceived and strategically organized and applied.

On a number of occasions I have asked men engaged in the teaching of physical diagnosis whether in the presentation of this subject it was not a mistake to stress well-marked pathologic conditions. These men have usually agreed that much could be gained by increased attention to the study of the body from the standpoint of health rather than from that of disease, but they have maintained that the medical curriculum is already so full that it is impracticable to add anything to it. Nevertheless, it is noticeable that whenever a new, strange and remote tropical disease makes its appearance, some member of the faculty is sure to find the time to tell all about it, however slight the benefit that is likely to result from its presentation to a group of students who are preparing to practice medicine where the disease in question can never be more than a rare curiosity. Meanwhile, the teaching of personal hygiene is left to public health organizations, which lack the numbers, the intimate personal contacts and the forceful influence of the great body of educated physicians.

It is my belief that radical changes in medical education, organization and work are required for the most effective application of medical science, and that an essential prerequisite is a change in the aim, content and method of medical education. Progress in this direction will, however, be extremely slow, unless the public becomes aware of the situation, and demands a type of service which today the graduate of the standard medical school is hardly prepared to render. Medicine itself, not public health administration only, must accept in good faith and must practice in all earnestness the whole duty assigned to it by common sense, as well as by the dictionary, namely, the duty of "preventing, curing and alleviating" disease (not curing disease only). Medical social service, so called, is an entering wedge. Prenatal work is another step in the right direction, and in this field, happily, many physicians are fairly awake to their responsibilities and opportunities. In pediatrics, a hopeful beginning is found in the "health classes" for infants and children. The methods of some tuberculosis dispensaries, and of certain psychiatric clinics, are quite advanced. The systematic supervision of the health of groups of industrial workers is another promising sign. Life insurance companies are lending a hand by providing means for the periodic examination of policy holders. But the object sought will not be attained until the principles and practice of health conservation find a place in the medical curriculum as a major subject, to be pursued intensively before the student is permitted to concentrate on pathology and the practice of medicine and surgery, as now taught.

Let me make it perfectly clear that I am not asking only for increased emphasis on hygiene in the present curriculum, but for a fundamental reconstruction of the whole scheme of medical education, with a view to the presentation in logical order of (1) the sciences underlying medicine; (2) anatomy and physiology; (3) the science and art of health conservation, and (4) the diagnosis and treatment of disease. The multiplication and expansion of schools of public health, however useful and desirable, will not meet the requirement.

S. S. Goldwater, M.D., New York.

CARDIOLOGY AND THE GENERAL PRACTITIONER

To the Editor:—I enclose a copy of a letter from Sir James Mackenzie which will be of general interest. It may be of interest also to note, in this connection, that the first cardiologic society was established in America.

William J. Cruikshank, M.D., Brooklyn.
President, Brooklyn Cardiological Society.

Dear Dr. Cruikshank:—In your letter to me of the 9th February you ask me some questions in regard to the present position of cardiology and its relation to the general practitioner.

It is difficult to explain within the compass of a letter the reasons for the views I hold, but I will endeavour to explain my views in such a way as may excite some interest in the subject.

The present day conception of cardiology is somewhat elementary, in that the essentials are scarcely recognized. The highest conception seems to be to use some mechanical device for the detection of the symptoms of disease. An elaborate device like an electrocardiograph can only be used by relatively few doctors, specially trained. Moreover, it is an instrument whose use is restricted to certain places. It will be seen therefore that the vast majority of patients cannot benefit by its use. For this reason, a conception which looks to mechanical and laboratory devices for the practice

of medicine holds a very dark outlook for the majority of patients.

It should be borne in mind that when a man falls ill he develops a great many symptoms. The great discoveries of the past in the diagnosis of disease were made by the recognition of a peculiarity of some of the symptoms, or by the peculiar grouping of a number of symptoms. It was by this method that typhoid and typhus, scarlet and other fevers were recognized, as well as other diseases.

Mechanical devices may reveal certain characteristic signs, and help towards a diagnosis. In place of stopping there, the discoverers should seek for the associated symptoms, and by their peculiar grouping be guided to a diagnosis which can be made by the trained senses of the doctor. It should be recognized that the different diseases produce each a peculiar group of symptoms and the recognition of this idea gives a line to pursue as I shall show presently.

When it comes to the use of an instrument like a polygraph or electrocardiograph, the information it yields can be acquired by other means. When any peculiar sign is discovered by these instruments, the doctor should carefully study the methods by which the sign can be revealed—guided by the evidence produced by the instrument. The character of the pulse revealed by the trained finger, the variations in the heart movements as revealed by auscultation and palpation, the state of the peripheral circulation, and above all the sensations and experiences of the patient, afford the means of recognizing the vast majority of abnormal rhythms. But it requires long and careful training and a wide experience. If teachers would but learn this method, they could instruct their students how to detect the different rhythms, without the use of an elaborate apparatus. This is no fantastic idea, but one I have put to the test. Naturally some rare rhythm will escape recognition, but this will happen even with the aid of instruments.

Another great drawback in the use of instruments is that their use tends to foster the idea that they reveal matters which are the most important for the intelligent practice of medicine. This is quite wrong. The essential matter in every heart case is whether heart failure is present or likely to occur. No instrument, indeed no examination of the heart can ever give this information. An examination of the heart may reveal conditions that may lead to or provoke heart failure, but these are not the signs of heart failure. It can be said with certainty that medical knowledge has not advanced so far as to recognize the kind of knowledge which the symptoms reveal. It is widely but erroneously assumed that modified sounds can reveal the functional efficiency of the heart. It is also wrongly held that this kind of information can be obtained from variations in the heart rate and rhythm, and indeed we find these signs used as standards for determining the functional efficiency of the heart.

The signs of heart failure belong to quite a different category. If we hold clearly in mind what heart failure is, we will see where to look for its signs. Heart failure may be defined as the inability of the heart to supply to the organs of the body sufficient blood for their efficient functioning.

It will thus be seen that the symptoms of heart failure will be produced by those organs which do not receive a sufficient supply of blood. As the output of the heart is dependent on the heart muscle, it is the weakness or exhaustion of the heart muscle which is the cause of heart failure. The exhaustion may be brought about by the muscle being embarrassed in its work by damaged valves, or abnormal rhythms, so that while these conditions may contribute to the exhaustion of the heart muscle, they do not give the signs of heart failure.

It will thus be seen that symptoms of a totally different kind from that revealed by the heart itself are necessary to the understanding of heart failure. But symptomatology has to be looked upon from a new standpoint before the nature of such symptoms can be understood. Hitherto medical investigation has been content to devise new methods for the addition of new symptoms to the great mass already accumulated. In place of aiding progress such a procedure hampers it by clouding over the path of progress in a fog of detail.

Phenomena in nature are infinite in number and variety, but the laws governing their production are few. Every branch of knowledge starts by accumulating a great number of these phenomena, but little progress can be made until the laws governing them are discovered. The discovery of the law of gravity and the atomic theory enabled natural philosophy and chemistry to become sciences, because the phenomena could be classified in groups according to their affinity in nature.

Medicine has only reached the stage where the phenomena are still being accumulated in an incoordinated mass. The symptoms of disease are natural phenomena and subject to the same laws as the phenomena of the natural sciences. Though the symptoms of disease are infinite in number and variety, the vital processes concerned in their production are few in number and their recognition will at once reduce the chaotic mass of symptoms into well defined groups arranged according to their affinity. At the outset of our investigation at the Institute for Clinical Research in St. Andrews, we realized that our enterprise held out no prospect of success until we discovered the laws concerned in the production of symptoms. This we recognized was an essential step to the systematic investigation into the problems of disease, and we recognized that the failures which have attended nearly every clinical research were due to the fact that this elementary knowledge had not been acquired.

Our inquiry has met with success and we recognize certain vital processes which are concerned in the production of a great mass of symptoms. We have applied the principles of this kind of investigation to the study of affections of the heart, and it has thrown a flood of light upon the subject, and opened new fields for investigation.

J. MACKENZIE.

The St. Andrews Institute for Clinical Research, St. Andrews, Fife.

"WHAT OUGHT THE UNITED STATES PHARMACOPEIA TO CONTAIN?"

To the Editor:—In answer to Dr. Wood's letter (THE JOURNAL, March 25) concerning my article on the United States Pharmacopeia:

1. How many chemical laboratories in this country have a United States Pharmacopeia to teach them how to make distilled water? Poor silver nitrate, if it should meet a little tap water! Would it have to meet it if the Aqua Destillata were not official? Dr. Wood does not defend the official Aqua, "a colorless, limpid, liquid, practically tasteless and colorless"; a waste of space in a book of drugs.

2. Soap in the compound cathartic pill: This ancient, Asiatic shotgun mixture, or better, intestinal shrapnel bomb, containing colocynth, aloes, scammony, jalap, gamboge and calomel does contain 0.012 gm. of *soap* (⅛ grain) which is contained in the compound extract of colocynth.

3. Does a druggist ever test for standards his lard, starch, agar, wax, linseed, honey, suet, etc.? He relies on the pure food laws to give him these substances unadulterated.

Lovely, to have a standard in the United States Pharmacopeia for lemonpeel, orangepeel, adhesive plaster, cotton, manna, honey and iron wire!

The following would put one in mind of the house that Jack built, namely: Honey is standardized to make clarified honey, and clarified honey is standardized to make honey of rose, and the dose of the last is a teaspoonful. One and a half pages devoted to such nonsense!

4. The adulteration of spices is a question for the pure food administration. Dr. Wood seems to have forgotten that his committee has deleted anise.

5. Of what value is scientific research or a Revision Committee, if duplicated drugs are to be multiplied and nothing eliminated from the Pharmacopeia? If calcium bromid and ammonium bromid cannot be deleted in favor of potassium and sodium bromid, why has Dr. Wood's committee just eliminated strontium bromid, which drug is much used by many physicians?

I am sorry that Dr. Wood did not state how many of my recommended deletions he would approve of, as well as the few of which he has disapproved. A few of the drugs which his committee has deleted are very largely used throughout the United States, the very argument for retaining a drug that Dr. Wood wishes me to consider. In other words, his recommendations are right and mine are wrong.

6. Some dermatologists do not need the old diachylon (lead) ointment, or sodium thiosulphate (hyposulphite). These drugs are of no more necessity in the treatment of diseases of the skin than are musk, lithium and valerian for the treatment of internal diseases.

7. If everything that was ever used medicinally, internally or externally (and all of these drugs are still used somewhere from Alaska to Puerto Rico and from the Philippines to Cape Cod) were kept, the United States Pharmacopeia would now consist of several large volumes, and a revision committee would be superfluous, and the committee on scope could make the sky the limit. The whole object of a revision committee is to boil down and weed out unnecessary drugs while keeping the best and adding the new valuable drugs.

8. Must we keep hypophosphorous acid and the dilute acid to make the syrup of the iodid of iron when 1 grain of reduced iron and 1 drop of the tincture of iodin once a day will be of as much benefit to the child as the syrup of the iodid of iron?

Oliver T. Osborne, M.D., New Haven, Conn.

REMOVAL OF THE TONSILS—VACCINIA

To the Editor:—An article by Drs. H. D. Caylor and G. F. Dick in The Journal, February 25, in regard to indications for removal of tonsils, brings to our attention a subject concerning which there is much confusion. In our work in taking cultures for the release of cases of diphtheria, we examine a large number of throats each year, and our experience is that one cannot tell from the appearance at the time whether a case will be rapid or slow in clearing up. It has happened often that a large tonsil may be rapid in clearing up and, on the other hand, an innocent looking small tonsil, from which no pus could be expressed, will retain the infection for weeks. I believe that the history of the behavior of the tonsils is a better guide for or against the removal than any other single factor. Of course, if tonsils are so large as to interfere with breathing, from a mechanical standpoint, or if there is obviously a large amount of pus in them, it is easy to decide; but in borderline cases, and in those small innocent looking ones, a careful consideration of their past behavior gives us a better idea of their condition than any inspection possibly can.

In the issue of February 18 was an interesting note on vaccinia of the lip by Dr. Alfred Schalek. This brings to my mind a rather unusual case of smallpox I observed in a 5 months old baby about two years ago during an epidemic of about seventy-five cases occurring in the Long Beach section of this county. Every member, with the exception of the father, who submitted to vaccination to obtain a working permit, developed smallpox. The family consisted of the mother, four children, and the baby. The children all exhibited the typical but mild form of smallpox we so often encounter. The mother had a more severe case by far than the children, and the baby, whom she was nursing, a few days after slight prodromal symptoms, developed a single lesion on the middle of the forehead. This lesion resembled a vaccination more than a smallpox lesion, but as nobody in the house had been vaccinated, with the exception of the father, who was living separately, it could not have been a vaccination lesion. This lesion went through all the stages that a vaccination lesion would go through, but resulted in a small, unnoticeable scar. The time is shown in that the lesion first appeared, March 24, and the scab fell off, April 8. I was forced to conclude that it was a case of smallpox with a single lesion.

J. W. Robinson, M.D., Los Angeles.
Deputy Health Officer, Los Angeles County.

METHOD FOR REMOVING ADHERENT SYRINGE PISTONS

To the Editor:—I do not remember of having come across a method similar to that described below for removing adherent syringe pistons, a procedure which frequently becomes necessary as the result of the drying of serum, blood, sugar solutions, etc. I thought this might be of service to your readers.

The method utilizes contraction and expansion, physical changes which accompany the cooling of the syringe with its adherent piston by placing it on ice for ten minutes, more or less, and rapidly warming the barrel over a small flame or water at from 40 to 50 C. The barrel, being the part first warmed, will expand first, leaving the cold plunger behind and thus breaking the adhesion. A continuous pull on the handle of the piston before it becomes warmed and expands will invariably separate it from the barrel. To be successful, therefore, the warming of the barrel and the traction on the piston must be accomplished in a few seconds.

I have found this method particularly effective with record syringes, in which the coefficient of expansions of the barrel and piston are different. It is, however, equally good on all glass instruments. The operation is rapid and does not alter the fit of the plungers, as the acid method, for example. When acid, antiformin, boiling in glycerin, etc., failed, this method succeeded.

Cristobal Manalang, M.D., Zamboanga, P. I.
Division Bacteriologist, Philippine Health Service.

Queries and Minor Notes

Anonymous Communications and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

"A PLETHORA OF PHYSICIANS"

Referring to the item on this subject published in Correspondence in The Journal last week, a physician in Nebraska writes: "Nebraska is a very healthy state. One needs a large territory to make even a decent living. Let me cite a few examples with which I am familiar: a town of 1,100 with five physicians, all 'up and coming,' and not one making any money; a town of 900 with four physicians, one of whom is making money, but he is of a very unusual type; a town of 2,200 with six physicians, not so bad, but none of them is making any money, and the town has territory only on one side; a county seat of 10,000 with sixteen physicians; the work is practically all in town, and one third the number could take care of it easily, so that none of them is making any money.' By 'making money' I mean getting a little more than one needs for a living. These conditions are typical of eastern Nebraska, with a few exceptions."

Alcoholism in Germany.—The *Deutsche medizinische Wochenschrift* relates that in 1913 the number of cases of mental disease of alcoholic origin interned in the various institutions of Germany totaled 7,744. During the war the number constantly declined, being only 1,034 in 1918. Since the war, there has been a progressive increase to 1,979 in 1920. It quotes some recent figures that, in four months, French wines and brandies to a total of 990 millions had been imported into Germany through the Ems customs house.

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

ARIZONA: Phoenix, April 4-5. Sec., Dr. Aneil Martin, 207 Goodrich Bldg., Phoenix.

ARKANSAS: Little Rock, May 9. Sec., Reg. Bd., Dr. J. W. Walker, Fayetteville. Sec., Eclec. Bd., Dr. C. E. Laws, 803½ Garrison Ave., Fort Smith. Sec., Homeo. Bd., Dr. Geo. W. Love, Rogers.

CALIFORNIA: Los Angeles, April 11. Sec., Dr. Charles B. Pinkham, 906 Forum Bldg., Sacramento.

COLORADO: Denver, April 4. Sec., Dr. David A. Strickler, 612 Empire Bldg., Denver.

DISTRICT OF COLUMBIA: Washington, April 11. Sec., Dr. Edgar P. Copeland, 1315 Rhode Island Ave., Washington.

HAWAII: Honolulu, April 10. Sec., Dr. G. C. Milnor, 401 Beretania St., Honolulu.

IDAHO: Boise, April 4. Director, Mr. Paul Davis, Boise.

MASSACHUSETTS: Boston, May 9-11. Sec., Dr. Samuel H. Calderwood, 144 State House, Boston.

MINNESOTA: Minneapolis, April 4-6. Sec., Dr. Thomas S. McDavitt, 539 Lowry Bldg., St. Paul.

MONTANA: Helena, April 4. Sec., Dr. S. A. Cooney, Power Bldg., Helena.

NEVADA: Carson City, May 1. Sec., Dr. Simeon L. Lee, Carson City.

NEW MEXICO: Santa Fe, April 10-11. Sec., Dr. R. E. McBride, Las Cruces.

OKLAHOMA: Oklahoma City, April 11-12. Sec., Dr. J. M. Byrum, Shawnee.

PORTO RICO: San Juan, April 4. Sec., Dr. M. Quevedo Baez, Box 804, San Juan.

RHODE ISLAND: Providence, April 6-7. Sec., Dr. Byron U. Richards, State House, Providence.

UTAH: Salt Lake City, April 4. Director, Mr. J. T. Hammond, Salt Lake City.

Texas November Examination

Dr. Thomas J. Crowe, secretary, Texas State Board of Medical Examiners, reports the oral and written examination held at Dallas, Nov. 15-17, 1921. The examination covered 12 subjects and included 120 questions. An average of 75 per cent. was required to pass. Six candidates were examined, all of whom passed. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent.
Tulane University		(1921)	89.7
Johns Hopkins University		(1920)	87.5
University of Tennessee		(1921)	83.5
Baylor University		(1921)	90.2, 91
Fort Worth School of Medicine		(1918)*	81.3

* Graduation not verified.

Delaware December Examination

Dr. P. S. Downs, secretary, Delaware State Board of Medical examiners, reports the oral, written and practical examination held at Wilmington, Dec. 13-15, 1921. The examination covered 10 subjects and included 100 questions. An average of 75 per cent. was required to pass. Five candidates were examined, all of whom passed. Four candidates were licensed by reciprocity. The following colleges were represented:

College	PASSED	Year Grad.	Number Licensed
Jefferson Medical College		(1920), (1921)	2
Temple University		(1920), (1921)	2
University of Pennsylvania		(1920)	1

College	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
Tufts College Medical School		(1909)	New Hamp.
Jefferson Medical College		(1920)	Maryland
Temple University		*	Penna.
University of Pennsylvania		(1919)	Penna.

* No year of graduation given.

Kentucky December Examination

Dr. A. T. McCormack, secretary, Kentucky State Board of Health, reports the oral, written and practical examination held at Louisville, Dec. 6, 1921. The examination covered 12 subjects and included 120 questions. An average of 70 per cent. was required to pass. Of the 9 candidates examined, 5 passed and 4 failed. Five candidates were licensed by reciprocity. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent.
Kentucky University Medical Department		(1906)	78
University of Louisville Medical Department		(1875) (1897) 79, (1922)* 84	70,
Jefferson Medical College		(1921)	87
University of Louisville Medical Department	FAILED	(1911)	60
Kansas City University of Phys. and Surgs.		(1919)	71†
Meharry Medical College		(1910) 38, (1921)	64

College	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
Kentucky School of Medicine		(1898)	Illinois
University of Minnesota		(1895)	Minnesota
Memphis Hospital Medical College		(1912)	Mississippi
Tennessee Medical College		(1908)	Tennessee
University of Virginia		(1919)	Virginia

* Diploma withheld until 1922.

† Fell below 60 per cent. in more than one branch.

Book Notices

THE VITAMINS. By H. C. Sherman, Professor of Food Chemistry, Columbia University, and S. L. Smith, Specialist in Biological and Food Chemistry, United States Department of Agriculture. Cloth. Price, $4 net. Pp. 273, with 20 illustrations. New York: The Chemical Catalog Company, Inc., 1922.

This is one of the series of scientific and technologic monographs published by the American Chemical Society, one of the purposes of which is to promote research by furnishing a well digested survey of the progress made in the field of science covered by the monograph. "The Vitamins" fulfils this purpose, as it is probably the best digested survey available on the subject with which it deals. As the authors point out in the preface, the book is designed to summarize our present knowledge of vitamins in as judicial a manner as possible. The chemical nature of the vitamins is still unknown, but a vast amount of practical scientific information has been developed regarding these somewhat elusive factors in our foods. The greater part of the text of this book was written near the middle of 1921, but on some points the authors have brought their summary down practically to January, 1922.

The first chapter is an historical introduction to the vitamin theory. Our present point of view in regard to this branch of food chemistry, it is pointed out, is a development rather than a discovery, and much of that development antedates the introduction of the word vitamin. In discussing the question of terminology, the authors refer to the lack of harmony between the alphabetical sequence and the historical sequence. "Fat-soluble A" was so designated because McCollum in his earlier experiments unwittingly furnished a water-soluble vitamin in what he supposed were vitamin-freed foodstuffs. He was thus led to conclude that the only unidentified substance essential to normal nutrition was the fat-soluble substance of butter, eggfat, etc., which he called "fat-soluble A." Water-soluble B was, as a matter of fact, discovered much earlier by Eijkman who, between 1890 and 1896, discovered that he was able to prevent or cure nutritional polyneuritis in fowls (produced experimentally by feeding polished rice) by giving the birds an extract of the rice polishings. Sherman and Smith, therefore, in their detailed discussion of the three vitamins follow the historical rather than the alphabetical sequence and take up first the antineuritic vitamin (vitamin B). In the chapter following the antiscorbutic vitamin (vitamin C) is dealt with, and still later the fat-soluble vitamin (vitamin A). A lucid summary of the properties of each vitamin is given at the end of each chapter.

Then comes, what to the average physician will be probably the most interesting and valuable chapter in the book, that dealing with "Vitamins in the Problem of Food Supply." This deals with the place of vitamins as a practical problem in providing an adequate and economical food supply. The authors point out there are certain essentials to an adequate food supply: (1) sufficient quantities of digestible organic nutrients to yield the energy necessary (calories); (2) sufficient suitable protein; (3) suitable proportions and adequate amounts of certain mineral or inorganic elements, and (4) the necessary amount of each of the three vitamins. Sherman and Smith hold that it is unfortunate that we have, in the past, expressed the energy value of foods and the energy needs of the body in terms of calories because, as they point out, the body is not essentially a heat engine. They quaintly and accurately suggest that the old steam engine analogy might better be supplanted by likening the body to a gasoline

engine in which the energy comes not from heat, but from the chemical reaction involved in the oxidation of the fuel. Carrying out their new analogy further, they compare the organic nutrients (fats, proteins, carbohydrates) to the fuel (gasoline); the proteins and some of the mineral matters to the material of which the motor is made; other mineral matters to the lubricant, while the vitamins are the ignition sparks, insignificant in energy per se, but without which the engine cannot run.

In this chapter, too, is an excellent table based on that of the British Medical Research Committee as modified by Rose and giving an idea of the relative richness of many of the commoner foodstuffs in one or more of the three vitamins. Finally, there is a most elaborate bibliography. The book can be recommended not only to those who are making a special study of the problems of nutrition, but also to those interested in getting an intelligent grasp of our present scientific knowledge of these comparatively new and unique factors in our food supplies—the vitamins.

WARFARE IN THE HUMAN BODY. Essays on Method, Malignity, Repair and Allied Subjects. By Morley Roberts. Introduction by Professor Arthur Keith, M.D., F.R.C.S., F.R.S. Cloth. Price, $7. Pp. 286. New York: E. P. Dutton Company, 1921.

The lay contributor to science usually discusses subjects about which he has no fundamental knowledge, and his views are of but transient interest to the scientist. However, when such a contribution comes with a personal introduction by no less an authority than Prof. Arthur Keith and bearing the name of Mr. Morley Roberts, a writer of note, the views merit consideration. In his first essay, Mr. Roberts conceives of the body as a field in which the epithelial tissue constantly contends with connective tissue for domination. When the latter is unable to inhibit the growth of the former, carcinoma results. The influences controlling such inhibition, he believes, arise in the glands of internal secretion. Mr. Roberts presents his theory with the usual background of carcinoma theories, i. e., a general condemnation of all other theories thus far advanced. On the whole, his views are original and logical. They are weak, however, in the one significant fact that they have no actual foundation in experimental evidence. His other essays likewise deal with the theories of immunity and with the continual combats that go on within the human body. While the articles dealing with organic changes are of considerable interest, the four essays entitled "The Cannibal in Evolution," "Heredity and Environment," "Origin of Therapeutic Bathing," and "Pharmakos and Medicine," are philosophical and consequently interesting. The literary style is beautiful; it is an example of how scientific literature may be real literature.

INVESTIGATION ON SOIL POLLUTION AND THE RELATION OF THE VARIOUS TYPES OF PRIVIES TO THE SPREAD OF INTESTINAL INFECTIONS. By I. J. Kligler, Ph.D. Monographs of the Rockefeller Institute for Medical Research, No. 15. Paper. Pp. 75. New York: The Rockefeller Institute for Medical Research, 1921.

This monograph is a contribution of great value to our knowledge of the viability of the typhoid and dysentery bacilli in excreta and in the soil. Investigations were made both in the laboratory and in the field with various types of privies and septic tanks, and in the laboratory with soils of different characters. Typhoid bacilli were found to survive longer in stored feces than in pit privy material. In septic fluids, survival was dependent on the alkalinity—the higher the alkalinity, the more rapidly were the organisms destroyed. Dysentery bacilli were much less resistant than were the typhoid germs. In soil, the two organisms behaved alike. The death or survival in soil depended on three factors: (1) Moisture. The greater the content of moisture, the longer did the organisms survive. (2) Reaction. In acid soils the organisms disappeared rapidly, all being dead on the tenth day. (3) Metabolic products of soil organisms. Of the bacteria tested, only *B. fluorescens* produced any marked effect. Laboratory experiments also showed that typhoid and dysentery bacilli had little tendency to spread laterally from a polluting source. The investigation also included extensive studies on ground pollution in the neighborhood of pit privies and septic tanks. The extent of pollution was measured by using *B. coli* as an index. This contamination was found to extend laterally only about 3 feet (91 cm.), and downward from 3 to 5 feet (91 to 152 cm.). A number of contaminated wells were examined, and the conclusion reached that surface contamination was of greater import than privy pollution. This would depend, however, on the relation between the ground water level and the bottom of the privy or outlet of the septic tank. When this distance is from 10 to 15 feet (3 to 4.5 meters) there is little danger of polluting the ground water supply. The author points out that more attention should be paid to water supplies in rural districts, and particularly to the protection of such supplies against surface water contamination.

DISEASES OF THE NERVOUS SYSTEM. By H. Campbell Thomson, M.D., F.R.C.P., Physician to the Department for Diseases of the Nervous System, and Lecturer on Neurology, Middlesex Hospital. Third edition. Cloth. Price, $5. Pp. 566, with 143 illustrations. New York: Paul B. Hoeber, 1921.

The author has fallen into the error of combining under the cover of a comparatively small volume the description of the psychoneuroses alongside the organic diseases of the nervous system. The chapter on the psychoneuroses (a little more than thirty pages) is entirely inadequate, giving only a meager exposition of the symptoms of functional disorders and their treatment. The same must be said about the chapter on exophthalmic goiter—not a word in it about the changes in general metabolism or the tests to ascertain them. Demographia is not mentioned as a symptom. The sections that descripe the anatomy, physiology, paths of infection of the central nervous system and the diseases of the peripheral nerves, muscular atrophies, and disease of the spinal cord are well done. The illustrations are numerous and well selected. In the chapters on dementia paralytica and tabes dorsalis, little is said about serologic and cytologic findings. No mention is made of the gold chlorid test, and the globulin reactions are not sufficiently explained. A new chapter on epidemic encephalitis includes a meager description of symptoms, while mental symptoms and mental sequelae of the disease are entirely overlooked.

THE CARE OF EYE CASES. A Manual for the Nurse, Practitioner and Student. By Robert Henry Elliot, M.D., B.S., Sc.D., Lecturer in Ophthalmology, London School of Tropical Medicine. Cloth. Price, $4.50. Pp. 172, with 135 illustrations. New York: Oxford University Press, 1921.

There are three separate parts to this really invaluable manual. The first part deals with the anatomy of the eye, briefly but sufficiently for the needs of the nurse, and the technic of nursing in purely ophthalmic cases. The second part describes the commoner diseases of the eye and orbit, and mentions the remedial measures used in the different conditions. The third part is in the nature of an appendix devoted to the ophthalmic armamentarium, describing the instruments by word and picture, as well as outlining the instruments needed for the various types of operations. Throughout, the diction is clear, and unnecessary verbiage is avoided. The illustrations really illustrate, crudely at times, but satisfactorily. As a whole, this manual may be perused to advantage by "nurse, practitioner and student," and hospitals would do well to require a study of this book by the undergraduate nurses.

THE MORPHOLOGIC ASPECT OF INTELLIGENCE. By Sante Naccarati, M.D., ScD., Ph.D. Columbia University Contributions to Philosophy and Psychology, Volume 27, No. 2. Cloth. Price, $1.10. Pp. 44. New York: G. E. Stechert & Co., 1921.

This little book contains one or two very suggestive ideas. Naccarati concerns himself with attempting to show that the macrosplanchnics, whose trunks are larger than average in proportion to the limbs, neck and head, are less intelligent than the microsplanchnics, whose trunks are relatively small. This fact may be related to the idea that the trunk is the seat of the vegetative functions, matters purely of maintenance of life, whereas it is by means of the rest of the organism, the organs of locomotion and intelligence, that man makes and maintains his contacts with the rest of the world, and a man's intelligence is judged by the success of these contacts. There are some tables of measurements of interest to the seeker after academic information.

Medicolegal

Malpractice Liability to Compensated Workman—Duty of Oculist

(Wood v. Vroman (Mich.), 184 N. W. R. 520)

The Supreme Court of Michigan, in reversing a judgment that the plaintiff obtained, and ordering a new trial, says that while the plaintiff was working in an automobile repair shop, dust and a piece of steel were blown into his right eye. He was unable to remove the steel with his handkerchief, and a fellow workman failed in an effort to remove it. The next morning, the plaintiff went to the defendant's office. As his cause of action, the plaintiff alleged that after the defendant had removed the bit of steel, he opened an ulcer and with a piece of cotton wiped some of the pus from the ulcer into the fresh wound, thereby infecting it and causing the blindness which followed. The plaintiff received $1,000 from the insurance company by which his employer was protected under the workmen's compensation law.

It was urged that, under the evidence, the infecting germs might have been introduced into the eye from the dirt blown into it, from the hands or the handkerchiefs of the plaintiff or his fellow workman, or in the discharge from the pustule, and that the jury should not have been permitted to guess or speculate about it. But the plaintiff was not required to prove to an absolute certainty that the infection was caused by the introduction of the germs in the pus. He was required to establish facts from which such an inference might fairly be drawn by the jury. That the infection might have been due to another cause was a matter of defense. A physician testified that it ordinarily took about twelve hours for such an infection to manifest itself, and that, assuming that up to the end of a period of twenty hours there had been no pain, no increased flow of tears, no perceptible inflammation or swelling, the probabilities would be that serious infection did not exist. This was sufficient to justify the submission to the jury of the question whether the loss of the plaintiff's eye was due to the action of the defendant in wiping the pus from the ulcer across that part of the eye from which the steel had been removed and whether such action was malpractice on the part of the defendant.

There was no question that the plaintiff here sought to recover for the same loss for which he had been compensated by the insurance company. It was true that he obtained such payment by representing that the loss of his eye was caused by the injury received while at work in the factory. But the doctrine of estoppel had no application. Even though it be conceded that "the employer is liable for resultant injuries which include an alleged act of malpractice," the plaintiff's claim was not based on any such resultant injury. To render the employer liable in such a case, the injury must result from necessary efforts to relieve from the consequences of the original injury, whereas the plaintiff's right to recover was based on the claim that, after the defendant had completed the work of removing the steel, he then, with the plaintiff's permission, opened the pustule on the eyelid, and, while removing the pus therefrom, caused the infection. Furthermore, while it was true that under his own testimony the plaintiff recovered compensation from the insurance company to which he was not in law entitled, this could not be considered by the jury in its award of damages. If the defendant was guilty of the tort complained of, he could not relieve himself from liability by showing that the plaintiff had received compensation on account thereof from any other source, except through payment by a joint wrongdoer. The fact, however, that, in a sworn statement sent to the industrial accident board, the plaintiff claimed that the loss of his eye was due to the injury received in the factory, while not conclusive against him as an estoppel, was persuasive as evidence, and, when requested by the defendant, the attention of the jury should have been particularly called to it.

While the defendant held himself out as a specialist in the treatment of the eyes, the test as to whether his treatment was proper should not have been based on what another eye specialist would have prescribed. The defendant was obligated to bring to the discharge of his duty that degree of skill and knowledge possessed by physicians who are specialists, in the light of present day scientific knowledge. The other eye specialist referred to might have been asked whether the treatment prescribed evidenced the exercise of such skill and knowledge on the part of the defendant; he should not have been permitted to state the treatment he would have used.

Requirements and Liability in Actions for Services

(Fincher v. Davis (Ga.), 108 S. E. R. 905)

The Court of Appeals of Georgia, Division No. 2, had here an action brought by plaintiff Davis to recover for professional services rendered to the wife of defendant Fincher. In affirming a judgment in favor of the plaintiff, the court prepared a syllabus of the points it decided, without any statement of facts beyond those incidentally mentioned in the syllabus. According to the syllabus, a person professing to practice surgery or the administering of medicine for a compensation must bring to the exercise of his profession a reasonable degree of care and skill. Any injury resulting from a want of such care and skill will be a tort for which a recovery may be had. The exercise of this degree of care and skill is the measure of professional duty in all cases; and whether this degree of care and skill has been exercised in a given case is a question of fact for the jury. In determining such an issue, the jury may consider all the attendant facts and circumstances which may throw light on the ultimate question.

In an action by a physician and surgeon to recover the value of professional services rendered, the burden is on him to prove that he is a physician, that he was employed as such, and that he rendered the services alleged, and to show the value of such services as represented by the ordinary and reasonable price for services of that nature. In such an action (as well as in a suit brought by a patient for malpractice), the presumption is that the surgical or medical services were performed in an ordinarily skilful manner, and the burden is on the person receiving the services to show a want of due care, skill, and diligence. When a physician or surgeon renders necessary professional services for a wife, with her consent, the husband is primarily liable therefor, even in the absence of any express consent on his part. The charge of the court in this case that if the operation was performed "wholly without any authority from this defendant, then the plaintiff would not be entitled to recover a fee for such operation," was more favorable to the defendant than the rule required.

The private physician and surgeon of the wife, who was familiar with the case and all the attendant facts and circumstances, and who witnessed the operation, being asked: "Was this operation done in a skilful manner?" answered, "Yes, sir." The question and answers were objected to on the ground that they trenched on the province of the jury in seeking and eliciting a conclusion on the main issue in the case. But the opinion of an expert on any question relating to his profession is always admissible, when given in response to a hypothetical question based on the testimony of witnesses other than himself, or when, as here, the expert has himself observed the facts, and gives his opinion based on his own observation.

The court charged the jury that, in considering whether the plaintiff in his diagnosis, care, and treatment of the defendant's wife exercised ordinary care and skill, the jury might not set up a standard of its own, but must be guided in that regard solely by the testimony of physicians; and that if the jury was unable to determine from the testimony of physicians and surgeons what constituted ordinary care and skill under the circumstances, then there was a failure of proof on the only standard for the guidance of the jury, the evidence was insufficient to sustain the defendant's plea of negligence, and the jury should find for the plaintiff a reasonable amount for the services rendered. The trial judge was manifestly seeking to impress on the jury that they were unauthorized to impose any other, capricious standard; and

while the language may not have been strictly accurate, in that the recognized methods employed by physicians and surgeons in the performance of such an operation might conceivably be shown by persons other than members of the medical profession, yet, since in point of fact the only testimony introduced along that line was that of physicians and surgeons, the inaccuracy of expression must necessarily have been harmless. The charge complained of, while it may have sought to limit the methods of proving the specific duties owing by the plaintiff, by confining such proof to testimony of physicians and surgeons, did not, as urged, thus limit the proof of negligence. "A reasonable degree of care and skill" must be taken to be such as, under similar conditions and in like surrounding circumstances, is ordinarily employed by the profession generally.

What Constitutes Medical Services

(Golden's Case (Mass.), 132 N. E. R. 726)

The Supreme Judicial Court of Massachusetts, referring to the workmen's compensation act of that state, says that the statute provides for the payment of only physicians and hospitals. Under the procedure considered, that which is to be furnished is "adequate and reasonable medical and hospital services, and medicines, when they are needed." Detailed provisions as to the selection of a physician are set forth. While the term "medical services," if used without limitation, may be susceptible of a broad construction, the statutes cited clearly indicate that those words, as therein used, are restricted to medical assistance rendered by the physician or under his direction and control. It was not necessary to decide in this case whether payment for medical services for a period commencing nearly a year and a half after the accident could rightly have been ordered by the industrial accident board. Nor was it necessary to decide whether massage may be employed in connection with or as a part of treatment, by a physician, and under such circumstances properly classed as medical services. In this case the employee received an injury to his shoulder, resulting in the complete atrophy of his right hand and arm, and massage was performed, so far as it appeared, solely on his request and not as a part of treatment by a physician. It was not medical service within the statute, and the insurer was not liable therefor in this proceeding.

No Evidence of Negligence Against the Defendants

(Wecker v. Hamel et al. (Minn.), 184 N. W. R. 1025)

The Supreme Court of Minnesota says that the plaintiff sought to recover damages for the death of his infant child on the ground that the defendants, as physicians and surgeons, negligently failed to diagnose the ailment of the child correctly, and treated it improperly. But the court is unable to find any evidence in the record tending to show that the defendants' diagnosis was incorrect, or their treatment improper. It also fails to find any error in the rulings admitting or excluding evidence. The plaintiff urged that an operation was performed on the child without the consent of its parents. After one of the defendants had treated the child for two or three weeks, it was, at their suggestion, taken to a hospital by its parents, where some sort of an operation seemed to have been performed. The nature and extent of the operation did not appear, but apparently it consisted in opening an abscess in the neck or throat of the child. Neither did it appear who performed the operation or whether either of the defendants was present or had anything to do with it. This action was brought under the statute which provides that when death is caused by the wrongful act or omission of any person, the personal representative of the decedent may maintain an action therefor. But there was no evidence that this operation was not necessary and proper treatment, and properly performed, or that it had any part in causing the death of the child. In short, there was an utter absence of proof tending to show actionable negligence on the part of either defendant, and the order which was made denying the plaintiff a new trial, after a verdict had been directed for the defendants at the close of the plaintiff's evidence, is affirmed.

Society Proceedings

COMING MEETINGS

AMERICAN MEDICAL ASSOCIATION, St. Louis, May 22-26. Dr. Alex. R. Craig, 535 N. Dearborn St., Chicago, Secretary.

Alabama, Medical Association of the State of, Birmingham, April 20-23. Dr. H. G. Perry, Montgomery, Secretary.

American Association of Genito-Urinary Surgeons, Washington, D. C., May 2-3. Dr. R. F. O'Neil, 374 Marlborough St., Boston, Secretary.

American Ass'n of Pathologists and Bacteriologists, Washington, D. C., May 2-4. Dr. H. T. Karsner, Lakeside Hospital, Cleveland, Secretary.

American Association of Physicians, Washington, D. C., May 2-4. Dr. Thomas McCrae, 1627 Spruce St., Philadelphia, Secretary.

American Bronchoscopic Society, Washington, D. C., May 3. Dr. Samuel Iglauer, 701 Race St., Cincinnati, Secretary.

American Climatological and Clinical Association, Washington, D. C., May 2-4. Dr. Arthur K. Stone, Framingham Center, Mass., Secretary.

American Congress on Internal Med., Rochester and Minneapolis, April 3-8. Dr. Frank Smithies, 1002 N. Dearborn St., Chicago, Secretary.

American Dermatological Association, Washington, D. C., May 2-4. Dr. Udo J. Wile, University of Michigan, Ann Arbor, Secretary.

American Gastro-Enterological Association, Washington, D. C., May 1-2. Dr. Arthur F. Chace, 525 Park Ave., New York, Secretary.

American Gynecological Society, Washington, D. C., May 1-3. Dr. A. H. Curtis 104 S. Michigan Ave., Chicago, Secretary.

American Laryngological Association, Washington, D. C., May 1-3. Dr. George M. Contes, 1811 Spruce St., Philadelphia, Secretary.

American Laryng., Rhinol. and Otological Society, Washington, D. C., May 4-6. Dr. W. H. Haskin, 40 E. 41st St., New York, Secretary.

American Neurological Association, Washington, May 2-3. Dr. Frederick Tilney, 22 E. 63d St., New York, Secretary.

American Ophthalmological Society, Washington, D. C., May 1-3. Dr. T. B. Holloway, 1819 Chestnut St., Philadelphia, Secretary.

American Orthopedic Association, Washington, D. C., May 2-4. Dr. De Forrest P. Willard, 1630 Spruce St., Philadelphia, Secretary.

American Otological Society, Washington, D. C., May 2-3. Dr. Thomas J. Harris, 104 E. 40th St., New York, Secretary.

American Pediatric Society, Washington, D. C., May 1-3. Dr. H. C. Carpenter, 1805 Spruce St., Philadelphia, Secretary.

American Psychopathological Association, Washington, D. C., May 1. Dr. Sanger Brown, 2d, 118 E. 80th St., New York, Secretary.

American Society of Tropical Med., Washington, D. C., May 2. Dr. B. H. Ranson, Bureau of Animal Industry, Washington, D. C., Secretary.

American Surgical Association, Washington, D. C., May 2-4. Dr. John H. Gibbon, 1608 Spruce St., Philadelphia, Secretary.

American Therapeutic Society, Washington, D. C., May 1-2. Dr. Lewis H. Taylor, The Cecil, Washington, D. C., Secretary.

American Urological Association, Atlantic City, May 26-28. Dr. H. G. Hamer, 723 Hume-Mansur Bldg., Indianapolis, Secretary.

Arkansas Medical Society, Little Rock, May 17-19. Dr. William R. Bathurst, 810 Boyle Building, Little Rock, Secretary.

California, Medical Society of the State of, Yosemite, May 9-12. Dr. W. E. Musgrave, Butler Bldg., San Francisco, Secretary.

Congress of Amer. Phys. & Surgs. of North America, Washington, D. C., May 2-3. Dr. W. E. Steiner, 646 Asylum Ave., Hartford, Conn., Sec.

Connecticut State Medical Society, Bridgeport, May 17-18. Dr. C. W. Comfort, Jr., 27 Elm Street, New Haven, Secretary.

Georgia, Medical Association of, Columbus, May 3-5. Dr. Allen H. Bunce, Healy Building, Atlanta, Secretary.

Illinois State Medical Society, Chicago, May 16-18. Dr. W. H. Gilmore, Mount Vernon, Secretary.

Iowa State Medical Society, Des Moines, May 10-12. Dr. T. B. Throckmorton, Bankers' Trust Bldg., Des Moines, Secretary.

Kansas Medical Society, Topeka, May 3-4. Dr. J. F. Hassig, 800 Minnesota Ave., Kansas City, Secretary.

Louisiana State Medical Society, Alexandria, April 11-13. Dr. P. T. Talbot, 1551 Canal St., New Orleans, Secretary.

Maryland, Medical and Chirurgical Faculty of, Baltimore, April 25-27. J. A. Chatard, 1211 Cathedral St., Baltimore, Secretary.

Mississippi State Medical Association, Hazlehurst, May 9-10. Dr. T. M. Dye, Clarksdale, Secretary.

Missouri State Medical Association, Excelsior Springs, May 9-11. Dr. E. J. Goodwin, 3529 Pine Street, St. Louis, Secretary.

National Tuberculosis Association, Washington, D. C., May 4-6. Dr. George M. Kober, 370 Seventh Ave., New York, Secretary.

Nebraska State Medical Association, Omaha, April 24-27. Dr. R. B. Adams, 1013 Terminal Building, Lincoln, Secretary.

New Hampshire Medical Society, Concord, May 17-18. Dr. D. E. Sullivan, 7 North State Street, Concord, Secretary.

New Mexico Medical Society, Gallup, April 28-29. Dr. J. W. Elder, Santa Fe Hospital, Albuquerque, Acting Secretary.

New York, Medical Society of the State of, Albany, April 18. Dr. E. L. Hunt, 17 W. 43d St., New York, Secretary.

North Carolina, Medical Society of the State of, Winston-Salem, April 25-27. Dr. L. McBrayer, Sanatorium, Secretary.

Ohio State Medical Association, Cincinnati, May 2-4. Mr. Don K. Martin, 131 East State St., Columbus, Executive Secretary.

Oklahoma State Medical Association, Oklahoma City, May 9-11. Dr. C. A. Thompson, 508 Barnes Bldg., Muskogee, Secretary.

Radiological Society of North America, St. Louis, May 19-20. Dr. M. J. Sandborn, Appleton, Wis., Secretary.

South Carolina Medical Association, Rock Hill, April 18-19. Dr. Edgar A. Hines, Seneca, Secretary.

South Dakota State Medical Association, Huron, May 16-18. Dr. Frederick A. Spafford, Flandreau, Secretary.

Tennessee State Medical Association, Memphis, April 11-13. Dr. Olin West, 327 Seventh Avenue, N., Nashville, Secretary.

Texas, State Medical Association of, El Paso, May 9-11. Dr. H. Taylor, Texas State Bank Bldg., Fort Worth, Secretary.

West Virginia State Medical Association, Huntington, May 17-19. Dr. Robert A. Ashworth, Moundsville, Secretary.

Western Electro-Therapeutic Association, Kansas City, Mo., April 20-21. Dr. Charles W. Fassett, 115 E. 31st St., Kansas City, Mo., Secretary.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

American Journal of Diseases of Children, Chicago

March, 1922, **23**, No. 3

*Chronic Diffuse Nephritis in Childhood. Report of Case with Review of Literature. C. H. Greene, Rochester, Minn.—p. 183.
*Antiscorbutic Property of Fruits. II. Experimental Study of Apples and Bananas. M. H. Givens, H. B. McClugage, and E. G. Van Horne, Rochester, N. Y.—p. 210.
*Indices of State of Nutrition in Children. H. Gray and G. H. Edmands, Boston.—p. 226.
*Results Following Administration of Alkali Phosphates to Spasmophilic, Rachitic and Normal Infants. J. K. Calvin and M. P. Borovsky, Chicago.—p. 238.
*Studies of Infant Feeding. XVI. Bacteriology of Feces and Food of Normal Babies Receiving Breast Milk. E. W. Brown and A. W. Bosworth, Boston.—p. 243.
Case of Alkaptonuria in Infants. J. B. Bilderback, Portland, Ore.—p. 259.

Chronic Diffuse Nephritis in Childhood.—A study of the reported cases of chronic nephritis in childhood, Greene states, indicates that chronic diffuse nephritis is a distinct clinicopathologic entity of probable congenital origin though no definite etiology may be ascribed. It is characterized by evidences of functional insufficiency of the kidneys dating from early infancy. Children so affected show great developmental disturbance with associated stunting backwardness in growth, difficulty in feeding, anemia and rachitis. The renal insufficiency is more directly evidenced by the excretion of large volumes of dilute urine with a low specific gravity. This urine contains a slight amount of albumin, and casts are present in small numbers. In those cases in which it has been determined, the phenolsulphonephthalein excretion is low. Death usually results from uremia. The pathologic picture in those cases is similar to, if not identical with, the chronic diffuse nephritis of adults. The literature is reviewed and one case is reported.

Antiscorbutic Property of Bananas and Apples.—The experiments reported on by Givens and his associates demonstrate that the raw apple and the raw banana are antiscorbutic agents. However, if either of these foods is subjected to any considerable temperature treatment, such as ordinarily employed in preservation by desiccation or canning, the amount of antiscorbutic vitamin in the original raw material is markedly reduced.

Indices of State of Nutrition in Children.—Although their ideal tables seem to Gray and Edmands to be the most exact by a slight margin, they admit that it is quite probable that for general use, on adults and children alike, the most satisfactory method hitherto proposed for estimating the correct weight of a normal person is the combination of Dreyer and Hanson's weight for stem and weight for chest tables, with the modification that the chest girth used be what they have called the mean girth rather than the resting girth advocated by Dreyer.

Alkali Phosphates in Spasmophilia and Rickets.—Calvin and Borovsky state that the administration of from 0.55 to 0.60 gm. potassium diorthophosphate (K_2HPO_4) or sodium diorthophosphate (Na_2HPO_4) per kilogram body weight per twenty-four hours to infants neither activated latent spasmophilia nor produced symptoms resembling spasmophilia. Even the superimposing of acute intercurrent infections in a number of cases, plus the administration of the phosphates, did not precipitate spasmophilic manifestations. Hence, the authors are unable to confirm the results of Jeppson and Klercker.

Bacteriology of Feces and Food of Normal Breast Fed Babies.—A bacteriologic study of the feces and the food of normal babies receiving breast milk was made by Brown and Bosworth. During the investigation a "bifidus-like" bacillus was isolated from the breast milk and from the skin around the nipple. It differs from *B. bifidus* as isolated from nurslings' feces in one respect only, namely, its ability to grow well initially under aerobic conditions. *B. bifidus* is the dominant living type of organism in the feces of normal breast fed babies.

American Journal of Physiology, Baltimore

February, 1922, **59**, No. 1

Origin of Free Cells of Serous Exudates. R. S. Cunningham, Baltimore.—p. 1
Influence of Epinephrin on Metabolism in Isolated Skeletal Muscle. G. Martin and R. B. Armitstead, San Francisco.—p. 37.
*Cerebral Function in Learning. IV. Vicarious Function after Destruction of Visual Areas. K. S. Lashley, Minneapolis.—p. 44.
*Motility of Duodenum and Relation of Duodenal Activity to that of Pars Pylorica. H. Wheelon and J. E. Thomas, St. Louis.—p. 72.
*Activities of Intestinal Mucosal Motor Mechanism. C. E. King and L. Arnold, Nashville, Tenn.—p. 97.
*Permeability of Placenta. 1. Permeability to Agglutinins, Hemolysins, Diphtheria Antitoxin and Diastase. H. Bourquin, Chicago.—p. 122.
*Urine Formation in Perfused Kidney. I. Influence of Alterations in Renal Blood Pressure on Amount and Composition of Urine. A. N. Richards and O. H. Plant, Philadelphia.—p. 144.
*Id. II. Influence of Epinephrin on Volume of Perfused Kidney. A. N. Richards and O. H. Plant, Philadelphia.
*Action of Minute Doses of Epinephrin and Pituitary Extract on Kidney. A. N. Richards and O. H. Plant, Philadelphia.—p. 191.
Action of Beta Rays of Radium on Excitability and Conduction in Nerve Trunk. E. S. Redfield, A. C. Redfield and A. Forbes, Boston.—p. 203.
*Effects of Suprarenal Feeding on Iodin Content of Thyroid. E. M. Black, M. Hupper and J. Rogers, New York.—p. 222.
Effect on Cold Blooded Heart of Changes in Ionic Content of Perfusate. I. Normal Mechanism; II. Arrhythmias. E. C. Andrus and E. P. Carter, Baltimore.—p. 227.
*Regeneration of Blood. Z. Jencks, New Haven, Conn.—p. 240.
Heat Liberated by Beating Heart. III. Oscillations of Temperature During Cardiac Cycle, or Thermocardiogram of Terrapin. C. D. Snyder, Baltimore.—p. 254.
*Explanation for Increase in Oxidation Brought About by Muscular Work. W. E. Burge and J. M. Leichsenring, Urbana, Ill.—p. 289.
Effect of Ethyl Alcohol on Tadpoles. S. O. Mast and Y. Ibara, Baltimore.—p. 294.
Poultry Fleshing Investigations. Utilization of Soy Bean and Corn Proteins as Affected by Suitable Mineral Supplements. D. C. Kennard, R. C. Holder and P. S. White, Indianapolis.—p. 298.
Some Plant Sources of Vitamins B and C. F. O. Santos, New Haven, Conn.—p. 310.
Effect of Vitamin Deficiency on Various Species of Animals. II. Comparative Vitamin A Requirement of Rabbits, Rats, Swine and Chickens. V. E. Nelson, A. R. Lamb and V. G. Heller, Ames, Ia.—p. 335.
*Reflex Produced by Chemical Stimulation of Deeper Respiratory Passages. E. H. Craigie, Chicago.—p. 346.
*Influence of Glands with Internal Secretions on Respiratory Exchange. III. Effect of Suprarenal Insufficiency (by Removal) in Thyroidectomized Rabbits. D. Marine and E. J. Baumann, New York.—p. 353.
Paradoxical Pupil Dilatation Following Lesions of Afferent Paths. J. Byrne, New York.—p. 369.
Energy Expenditure in Sewing. C. F. Langworthy and H. G. Barott, Washington, D. C.—p. 376.
Pathway for Visceral Afferent Impulses Within Spinal Cord. L. E. Davis, Chicago.—p, 381.
*Vasoconstriction from Warmth Stimulation. E. G. Martin and L. A. Jacoby, San Francisco.—p. 394.
Application of "All or Nothing" Principle of Nervous Conduction to Interpretation of Vasomotor Reflexes. E. G. Martin, San Francisco.—p. 400.
Hydrolysis of Sucrose in Human Stomach. R. M. Hill and H. B. Lewis, Urbana, Ill.—p. 413.
Myogenic Nature of Rhythmic Contractions of Intestine. W. C. Alvarez, San Francisco.—p. 421.
Effects of Galvanic Current on Segments of Intestine. W. C. Alvarez and L. J. Mahoney, San Francisco.—p. 431.
Activation of Glandular Stomach of Fowl. J. B. Collip, Edmonton, Alberta, Can.—p. 435.

Vicarious Functioning for Visual Area.—The normal visual area of the cerebrum was destroyed by Lashley in fourteen rats. The animals were then trained to discriminate differences of light intensity. When the habit was acquired a second operation destroyed some other cerebral area and tests were made to determine the loss or retention of the habit after this operation. The habit survived the destruction of any given third of the cortex left intact by the first operation. Only a small area in contact with the floor of the cranial cavity remained unexplored and Lashley feels that there is no cerebral localization in vicarious functioning for the visual area.

Motility of Duodenum.—Observations made by Wheelon and Thomas showed that the antrum, pyloric sphincter and first part of the duodenum in the dog each possesses definite rhythmic cycles which bear a constant relationship and show a dependence on each other, that is, parts excited cranialward

travel caudalward to excite lower segments. The three portions, therefore, show progressive motility which occurs in a definite sequence and in a manner which may normally cause material to leave the stomach and to be delivered into portions of the intestine below the first portion of the duodenum.

Activities of Intestinal Mucosal Motor Mechanism.—King and Arnold state that intestinal mucosa as a whole exhibits movements which may be designated as ridging, grooving and pitting. The intestinal mucosal motor mechanism is set into activity by mechanical stimulation, by heat, irritants and by epinephrin, pilocarpin, atropin, nicotin and barium. The mucosal motor mechanism is most active and reactive in the duodenum and upper jejunum, less so in the lower jejunum and almost refractory in the ileum. The metabolic gradient of Alvarez is suggested as the basis for a possible explanation.

Permeability of Placenta.—Bourquin found that agglutinins and hemolysins tend to come to essentially the same concentration in the maternal and fetal blood, the difference between the two being relatively slight. Diphtheria antitoxin passes rapidly from fetus to mother, slowly from mother to fetus. Normally the concentration of diastase in the fetal blood is lower than that of the maternal blood. An increase in the concentration of the maternal blood diastase is followed by a relatively slight increase in the diastase content of the fetal serum in some cases.

Urine Formation in Perfused Kidney.—The influence of alterations in renal blood pressure on the amount and composition of urine was studied by Richards and Plants. Changes in perfusion pressure induced by splanchnic stimulation, by introduction of epinephrin and nitroglycerin, by compression of the renal vein and by stimulation of the medulla were accompanied by parallel changes in the rate of urine elimination. The results are believed to constitute direct evidence in support of the filtration hypothesis of glomerular function.

Action of Epinephrin on Kidney.—When the kidney of the dog or rabbit was excised and perfused with herudinized blood at a constant rate of blood flow, the addition of a small amount of epinephrin to the blood caused rise in perfusion pressure and swelling of the kidney. The result is interpreted by Richards and Plant as evidence that the vas efferens is constricted by epinephrin with consequent rise of intraglomerular pressure and distention of the malpighian bodies. It is regarded as explanatory of the diuresis caused by epinephrin, splanchnic stimulation and medullary stimulation.

Action of Epinephrin and Pituitary Extract on Kidney.—Richards and Plant found that under the influence of minute doses of epinephrin and pituitary extract, blood flow through the kidney may be decreased, while the kidney volume and urine elimination may be increased. Considerations are presented in support of the belief that this combination of events reveals a slight degree of constriction of the efferent vessels, with consequent increase in glomerular pressure. The experiments are interpreted as being on the problem of glomerular regulation of urine formation.

Effect of Suprarenal Feeding on Iodin Content of Thyroid.—Black et al. found that epinephrin, generally believed to represent the active principle of suprarenal, produces much less effect than the nucleoprotein material from the entire gland. A somewhat hydrolyzed aqueous extract of the entire beef suprarenal when fed by mouth can produce in forty-five days a gain in the iodin content of the dog's thyroid gland amounting on the average to 70.4 per cent. The suprarenal nucleoprotein material obtained from the entire beef suprarenal, when fed in large dosage, shows an average increase of 50.7 per cent. of the iodin content.

Regeneration of Blood.—Hemorrhages of approximately one third of the estimated total blood volume Jencks found can be borne by albino rats without interfering with complete recovery. When one half or more of the blood was removed by hemorrhage, death ensued. By varying the diet from elimination of one factor to elimination of all but one factor, the speed of regeneration of blood was changed, but with each diet the organism replenished its normal supply of blood to the original values for red cells and hemoglobin. Protein permitted more rapid blood regeneration than either carbohydrate or fat when fed as a sole nutrient (2 gm. daily). The diets of vitamin rich food, even in very small amounts gave somewhat more speedy regeneration than any other diet containing one food factor only.

Effect of Exercise on Blood Catalase.—Moderately severe muscular exercise increases the blood catalase, and with subsequent rest this returns to normal. The increase in oxidation brought about by muscular work is attributed by Burge and Leichsenring to the increase in catalase, and the decrease in oxidation with subsequent rest is attributed to the diminution in this enzyme.

Respiratory Reflex Produced by Chemical Stimulation.—The respiratory reflex obtained in dogs by stimulation of the deeper respiratory passages with ammonia and with ether was found by Craigie to consist of an increased expiratory effort and inhibition of inspiration, these two elements appearing in varying proportions. The vasomotor response consists of a rather gradual fall in blood pressure, followed at once by a somewhat slower return to normal. In some cases the fall is preceded by a brief rise in pressure of much smaller degree. Both the respiratory and the circulatory reflexes are entirely unaffected by section of both vagi, and Craigie suggests the probability that the afferent impulses concerned pass through sympathetic branches to the spinal cord and up it to the medulla oblongata.

Effect of Suprarenal Insufficiency on Thyroidectomized Rabbits.—Marine and Bauman noted that partial but sufficient destruction of the function of the suprarenal cortex in rabbits with intact thyroids usually leads to an increased heat production. Removal of the thyroid prevents or greatly lessens the increased heat production which usually follows partial destruction of the suprarenal cortex. While epinephrin in large amounts may stimulate the thyroid, it is believed that exhaustion or insufficiency of the regulatory, inhibitory and restraining effect of the cortical influence is a much more important cause of increased thyroid activity and increased tissue oxidations in rabbits. The authors suggest that these observations may have an important bearing on the etiology of both exophthalmic goiter and simple goiter of puberty, pregnancy, menstruation and menopause.

Vasoconstriction from Warmth Stimulation.—In nine out of eleven experiments made by Martin and Jacoby immersion of the lower part of the human body in water at about 45 C. was followed in seven seconds, on the average, by a drop in temperature of the skin of the small of the back averaging slightly less than 0.2 C. Accompanying this drop in temperature were well marked "goosefleshing" and sensation of chilliness. Martin and Jacoby interpret these findings as evidence that a large volume of nervous discharge, due to stimulation of a great many receptors for warmth, elicits, typically, reflex vasoconstriction. This interpretation is opposed to the view that vasodilatation is the specific reflex response to stimulation of the end organs for warmth.

American Journal of Psychiatry, Baltimore

January, 1922, **78**, No. 3

Case of Psychasthenic Delirium. P. Janet, France.—p. 319.
Nature of Functional Disease. W. McDougal, Cambridge, Mass.—p. 335.
Constructive Formulation of Schizophrenia. A. Meyer, Baltimore.—p. 355.
Acute Psychoses with Symptoms Resembling Dementia Praecox. T. A. Hoch, Waverley, Mass.—p. 365.
*Importance of Endocrine Therapy in Combination with Mental Analysis in Treatment of Certain Cases of Personality Deviation. E. R. Spaulding.—p. 373.
Dementia Praecox and Adolescent Psychoses from Organic Visceral Viewpoint as Regards Prognoses and Therapy. D. J. McCarthy, Philadelphia.—p. 385.
*Dementia Praecox and Syphilis. R. A. Greene, Hathorne, Mass.—p. 399.
Laboratory Service in State Hospitals for Mental Diseases. H. I. Gosline, Howard, R. I.—p. 409.
Note from Samuel Tuke to New York Hospital (1811). H. Viets, Boston.—p. 425.
Prognosis of Involution Melancholia. A. Hoch and J. T. MacCurdy, New York.—p. 433.

Dementia Praecox and Syphilis.—In considering syphilis as a causative factor in relation to insanity, Greene cannot

believe it has any relation in this respect to dementia praecox. Five of twelve cases studied by him were paranoid type and three paranoid preferred. The evidence is definite that one must not rule out possibility of neurosyphilis because patients are apparently suffering from dementia praecox. On the other hand, one may not always find that clinical and neurologic evidence of tertiary nerve syphilis is to be relied on if the spinal fluid findings are used for a criterion.

Annals of Surgery, Philadelphia

February, 1922, **75**, No. 2

*Relationship of Massage to Metastasis in Malignant Tumors. L. C. Knox, New York.—p. 129.
*Treatment of Erysipelas with Chinosol and Sodium Chlorid. W. C. Lusk, New York.—p. 143.
*Von Recklinghausen's Disease or Osteitis Fibrosa; Report of Case Presenting Multiple Cysts and Giant Cell Tumors. J. K. Young and M. B. Cooperman, Philadelphia.—p. 171.
Neurofibromyxoma Treated by Conservative Operation. W. D. Gatch and J. O. Ritchey, Indianapolis.—p. 181.
*Ruptured Spleen; Report of Three Cases. R. F. Metcalfe and L. Z. Fletcher, Ft. Sam Houston, Texas.—p. 186.
*Cystic Dilatation of Common Bile Duct. P. J. Reel, Columbus, Ohio, and N. E. Burrell, Springfield, Ohio.—p. 191.
Surgery of Biliary Tract. A. M. Willis, Richmond, Va.—p. 196.
Results of High Ligation of Cystic Duct in Cholecystectomy. F. L. Hartman, C. M. Smyth, Jr., and J. K. W. Wood, Philadelphia.—p. 203.
*Duodenectomy: Experimental Study. F. C. Man and K. Kawamura, Rochester, Minn.—p. 208.
Comparative Analysis of 213 Forearm and Leg Fractures. A. H. Bixarro, London.—p. 221.
Dislocation of Pisiform; Case Report. I. Cohen, New York.—p. 238.

Relationship of Massage to Tumor Metastasis.—Study of human material in many ways suggests, but does not finally prove, the importance of massage as a means of inducing metastasis of tumor cells. In animals, on the contrary, very gentle massage for a total period of from two to five minutes distributed over a number of days has been shown by Knox to set free numerous particles of tumor which form emboli in the lungs. Such emboli produce metastatic tumors in a variable proportion of instances, depending on the growth activities of the tumor. Tumors which take in low percentages when implanted in the subcutaneous connective tissues give much fewer metastases than those of high virulence. Carcinoma and also sarcoma of the loose polyhedral cell type is easily generalized, but sarcoma of the compact spindle cell variety is not influenced. The importance of avoiding diagnostic or operative manipulation of a tumor in man is obvious. These observations are based on experimental work done on mice inoculated with nine strains of carcinoma and sarcoma.

Treatment of Erysipelas with Chinosol.—Lusk details his experience with the use of an ointment and a tincture of chinosol in the treatment of erysipelas. The formula for making the ointment is: cold, sterile water, ½ dram; add and dissolve powdered chinosol, 10 grains; then add sodium chlorid (reagent), 4 grains. Rub up, first with lanolin, ½ ounce, finally incorporating petrolatum, ½ ounce. This ointment, while applicable for use in the treatment of erysipelas affecting any skin area of the body, was generally used for all parts of the body only in children, its use in adults being generally limited to the face and ears. The formula for making the tincture of chinosol is: distilled water (10 parts), 1½ ounce, 48 minims. This is boiled and made cold in the icebox; then add and dissolve chinosol powder (2.5 per cent.), 192 grains; then add 95 per cent. alcohol (70 parts), 11 ounces, 1 dram and 36 minims; shake and add acetone (20 parts), 3 ounces, 1 dram and 36 minims. Shake and add without delay, because otherwise a precipitate of chinosol will soon begin to form. Add sodium chlorid (reagent), 96 grains. Shake vigorously from five to ten minutes. A flocculent precipitate will form which soon redissolves. The insoluble residue is sodium chlorid. Let stand over night and then strain through sterile cotton.

Osteitis Fibrosa in Negro.—The case reported by Young and Cooperman is said to be the only case on record in which a member of the colored race has been affected by this peculiar malady. The patient, female, aged 21, for the past four years has been bedridden because of fractures of the right and left femur. Within the past five years numerous bone tumors have appeared, involving the jaws and humeri.

Rupture of Spleen.—In two of the cases reported by Metcalfe and Fletcher the rupture was spontaneous. In the third case it followed a trauma. A splenectomy was performed with recovery in each case. The patients were aged 20, 21 and 22 years, respectively.

Cystic Dilatation of Common Bile Duct.—A patient, aged 56, first had symptoms at 20. Since this time her main discomfort had been gastric disturbance, intermittent jaundice, pain and tumor formation. So far as Reel and Burrell have been able to determine, this is the oldest patient reported in the literature with this condition. The cyst, containing approximately 8 liters, is, in all probability, the largest on record. The patient at the present time is enjoying good health and is able to attend to her household duties, the wound having healed. This is the thirty-sixth case of the kind on record.

Effect of Duodenectomy.—An investigation was undertaken by Mann and Kawamura for the purpose of determining the effect of removing the duodenum. A one stage operation for removal of the duodenum was developed. The duodenum was removed from the dog, cat, hog, goat and monkey, although long continued observations were made only on the dog, cat and hog. Careful studies on these three species did not reveal any noticeable changes following the duodenectomy. In the dog observations were carried on more than two and one-half years after operation. The animals remained in good condition. No data have been secured to show that the duodenum is of great importance in any of the species studied. However, in two of the ten dogs studied a typical peptic ulcer occurred on the jejunal side of the gastrojejunal anastomosis. Whether this bears any relation to the loss of the duodenum or any specific part of it, as Brunner's glands, is to be determined.

Archives of Neurology and Psychiatry, Chicago

March, 1922, **7**, No. 3

Reconstruction Course in Functional Anatomy of Nervous System. A. Meyer and L. Hausman, Baltimore.—p. 287.
*Intracranial Aneurysm of Vertebral Artery. H. G. Wells, Chicago.—p. 311.
Silver Diffusion Method for Staining Nerve Fibers in Paraffin Sections. W. Freeman, Philadelphia.—p. 321.
*Treatment of General Paresis by Intracistern Route. F. G. Ebaugh, Trenton, N. J.—p. 325.
*Incidence and Characteristics of Dysthyroidism as an Ex-Service Disability. With Especial Reference to Findings in Discharged Soldiers and Sailors, Examined for Bureau of War Risk Insurance (Now Veterans' Bureau), District No. 2. J. H. Huddleson and M. P. Bailey, New York.—p. 332.
Case of Hereditary Ataxia (Friedreich) with Anatomic Findings. J. A. F. Pfeiffer, Baltimore.—p. 341.
Two Recent Improvements in Staining of Spirochetes in Nervous Tissue. G. S. Stevenson, New York.—p. 349.
*Sinistrality and Muscle Coordination in Musicians, Iron Workers and Others. C. Quinan, San Francisco.—p. 352.

Intracranial Aneurysm of Vertebral Artery.—Wells reports the case of a colored man, who, with no clinical or anatomic evidence of syphilis, but with a history of severe cranial traumatism many years before, died of hypostatic bronchopneumonia, without giving marked evidence of increased intracranial pressure or of cranial nerve paralysis during his last illness. Necropsy examination revealed a large aneurysm of the left vertebral artery, causing much deformity about the cerebellopontile angle, compressing the sixth, seventh, eighth and ninth cranial nerves, occluding the left vertebral artery, and, by pressure on the aqueduct of Sylvius, causing distinct internal hydrocephalus. That the swelling had been present for a long time was indicated by the presence of a distinct grooving in the floor of the skull beneath it. A necropsy inquiry revealed that the patient had had roaring in the ears, dizziness and "spells" three years before his death. Neuralgic pain and infection about the gums led to the extraction of several teeth four months before death. Two months later there was an attack of syncope. Three weeks before death difficulty of speech, decreased vision and difficulty in swallowing appeared, terminating in hypostatic bronchopneumonia. As far as Wells could learn from the literature, this seems to be one of the largest vertebral aneurysms yet observed.

Treatment of General Paresis by Intracistern Route.—Puncture of the cisterna magna in the treatment of general paresis has been done by Ebaugh 250 times in twenty-eight patients. No accidents resulted from the punctures. The clinical and serologic results in the cases treated seem to justify further use of this method.

Thyroid Dysfunction and Neuropsychiatric Disorders.—The material reported on by Huddleson and Bailey consisted of ninety-four consecutive outpatient cases, clinically examined, of war veterans suffering from thyroid dysfunction accompanied by some neuropsychiatric disorder. They conclude: (1) that the incidence of dysthyroidism, increased by the war, is now in the decline but has not yet reached its prewar level; (2) that the bulk of this increase is made up of toxic nonexophthalmic, vagotonic cases, and cases transitional between this and the sympathicotonic type; (3) that many causes for the increase have been variously operative, none predominating; and (4) that there is a distinct tendency toward improvement in all types of toxic cases caused by the war.

Sinistrality and Muscle Coordination.—A study was made by Quinan of sixteen sinistral patients. Six admitted an unaccountable and capricious tendency to "bump into things." One is unable to "reverse" in waltzing. Of five who had studied instrumental music, two had made fair progress up to a certain point but considered that they had accomplished little for the outlay of time and money. Both are hampered by a defective sense of tempo and find "sight reading" an embarrassment. Two others abandoned the study of music because they were "unable to make any headway." The remaining one is a talented player but states that she still finds it difficult to "keep in time." Of these five musicians, two are left handed and left eyed, one is left handed and right eyed and two are right handed and left eyed. Five patients are free from motor symptoms. These patients seem to show: (1) that sinistrals are especially prone to various forms of muscle incoordination, and (2) that in some of these persons both the sense of equilibrium and the sense of rhythm are defective. Hoping further to elucidate the subject, a study of sinistrality in skilled manual workers was carried out. Three series of 100 men each, classified as (1) professional musicians, (2) machinists, and (3) male inmates of a public relief home, were also examined. Four per cent. of the machinists proved to be left-handed and an additional 4 per cent. had sinistral peculiarities. In striking 8 per cent. of left handedness was found among the musicians while the lesser forms of sinistrality mounted to 24 per cent. It was evident from this research that left handedness and sinistrality usually are indicative of the psychopathic constitution.

Boston Medical and Surgical Journal

March 9, 1922, **186**, No. 10

Indications for Opening Mastoid Cortex. F. P. Emerson, Boston.—p. 301.
Infected Colon as Related to Toxic Psychoses. J. W. Draper, New York.—p. 304.
Plea for Routine Examination on Operating Table Under Anesthesia as Preliminary to Abdominal Operations. J. W. Keefe, Providence, R. I.—p. 307.
Two Cases of Injury to Tibial Tubercle. J. W. Sever, Boston.—p. 311.
Arthroplasty of Elbow Joint: Point of View. H. C. Bean, Boston.—p. 313.
Need of Sanatorium Treatment of Tuberculous Children. W. A. Griffin, Sharon, Mass.—p. 316.
Radiotherapy in Carcinoma of Breast. G. E. Pfahler, Philadelphia.—p. 318.

Journal of Experimental Medicine, Baltimore

March 1, 1922, **35**, No. 3

Twort-D'Herelle Phenomenon. II. Lysis and Microbic Variation. A. Gratia, New York.—p. 287.
*Cultivation and Biologic Characteristics of Spirocheta Obermeieri (Recurrentis). I. J. Kligler and O. H. Robertson, New York.—p. 303.
Importance of Dextrose in Medium of Tissue Cultures. M. R. Lewis, Baltimore.—p. 317.
*Construction of Oxygen Chamber for Treatment of Pneumonia. W. C. Stadie, New York.—p. 323.
*Treatment of Anoxemia in Pneumonia in an Oxygen Chamber. W. C. Stadie, New York.—p. 337.
Organism Resembling Bacillus Actinoides Isolated from Pneumonic Lungs of White Rats. F. S. Jones, Princeton, N. J.—p. 361.
Three Months Old Strain of Epithelium. A. Fischer, New York.—p. 367.
*Studies on Roentgen-Ray Effects. IX. Action of Serum from Roentgen-Rayed Animals on Lymphoid Cells in Vitro. J. B. Murphy, J. Heng Lieu and E. Sturm, New York.—p. 373.
*Measurement of Intravenous Temperatures. H. Clark, New York.—p. 385.
Venereal Spirochetosis in American Rabbits. H. Noguchi, New York.—p. 391.

Cultivation of Spirochaeta Obermeieri.—A study of the growth requirements of *Spirochaeta obermeieri* resulted in the perfection of a method which enabled Kligler and Robertson (1) to cultivate the organisms consistently from the blood of infected mice and rats, (2) to maintain the viability of cultures for periods of at least from three to seven weeks, and (3) to carry them on in successive subcultures by transplanting at intervals of from two to four weeks. This method is essentially the same as the Noguchi technic for the cultivation of the leptospira group, but emphasizes control of the physicochemical factors that act to limit and prevent growth and prescribes the conditions necessary to counteract the injurious influences. Ascitic fluid, horse or rabbit serum may be used as culture fluids. Uniformly successful results depend chiefly on the proper adjustment and stabilization of the reaction. A balanced reaction can be secured by adding 1.0 per cent. peptone broth or egg albumin as buffer, and covering the culture with a layer of oil. *Spirochaeta obermeieri* is a strict aerobe, consequently in order to permit adequate aeration the oil layer should not exceed 1.5 cm. in height.

Use of Oxygen Chamber in Pneumonia.—The construction of an oxygen chamber is given by Stadie. This chamber can be filled quickly with oxygen to any concentration up to 65 per cent. and maintained at the desired concentration for an indefinite time. The construction of ventilating system, cooling device, carbon dioxid remover, automatic oxygen analyzer, and filling and maintenance devices is given. The chamber is designed so that pneumonia patients with anoxemia may be placed in it and breathe an atmosphere containing from 40 to 60 per cent. of oxygen. The chamber is easy of ingress and egress, is economical in cost of operation, and comfortably accommodates patient and attendants so that adequate nursing and medical attention can be given at all times.

Treatment of Pneumonia Anoxemia in Oxygen Chamber.—Eight cases of pneumonia were treated by Stadie in the oxygen chamber. Five cases in which the prognosis was grave ended in recovery. Three cases, one of tuberculosis, one with a pneumococcus Type III infection, and a third with a pneumonia superimposed on a chronic pulmonary condition, ended fatally. In all cases there appeared to be an improvement in the patient's condition. In one case, particularly, with an intense degree of anoxemia, the patient became moribund and pulseless. Following the administration of 60 per cent. of oxygen there was a lowering of the heart rate from 160 to 120, the return of the pulse to the radial artery, the color became bright pink, and there was a remarkable change in the clinical condition.

Action of Roentgenized Blood Serum on Lymph Cells.—Lymphoid cells, prepared from the thymus and lymph glands of rats, when suspended in the serum of roentgenized rats and incubated for two hours, increase in number from 15 to 30 per cent., and mitotic figures were found by Murphy et al. among these cells in fairly large numbers. A like suspension of cells in normal serum undergoes rapid disintegration and in only one instance among a large number of films examined was a mitotic figure found. The stimulative effect of the serum from roentgenized rats endures from one to two hours after the exposure but is not detectable in the serum taken seventeen hours or later after the treatment. Serum roentgenized rats in vitro is devoid of stimulative action.

Measurement of Intravenous Temperature.—Although measurements made with a clinical thermometer are doubtless quite satisfactory for most purposes, it is possible that for certain kinds of experimental work fairly accurate determinations of blood temperatures may prove interesting. Apparatus which has been devised for this purpose by Clark is described. The temperatures are measured by a thermo-

electric method in which use is made of the fact that the discontinuity of electric potential at a junction of two dissimilar metals depends only on the nature of the metals and the temperature of the junction.

Journal of Metabolic Research, Morristown, N. J.

February, 1922, **1**, No. 2

Experimental Studies in Diabetes. Series III. Pathology of Diabetes. 6. Pancreatitis in Etiology of Experimental Diabetes. F. M. Allen, New York.—p. 165.
*Id. 7. Microscopic Studies of Pancreas in Clinical Diabetes. F. M. Allen, New York.—p. 193.
Id. 8. Microscopic Pathology of Pancreas in 570 Unselected Hospital Cases. F. M. Allen, Morristown, N. J.—p. 221.
Id. 9. Literature and Discussion. F. M. Allen, Morristown, N. J.—p. 251.
*Alcohol in Diabetic Diet. F. M. Allen and M. B. Wishart, New York. —p. 281.
*Overnutrition with Fat and Alcohol in Severe Diabetes. F. S. Leclercq, Morristown, N. J.—p. 307.
*Relations Between Fertility and Nutrition. I. Ovulation Rhythm in Rat on Standard Nutritional Regimen. H. M. Evans and K. S. Bishop, San Francisco.—p. 319.

Relation of Pancreas Pathology to Treatment in Diabetes.—Allen emphasizes the fact that the pathology bears an important relation to the treatment and prognosis of diabetes. While a true chronic pancreatitis or recurrence of acute or subacute attacks must be considered in some cases, the pathologic findings give the impression that from the standpoint of primary etiology the diabetic pancreas in most cases represents a burned out conflagration, and that the chief or sole cause of aggravation of the condition lies in hydropic degeneration of islands. This interpretation alters the former conception of diabetes as an inherently progressive disease, and affords ground for regarding the average case as the consequence of damage of a vital organ, which is in danger of further injury chiefly or solely from functional overstrain. Clinical evidence to date corroborates this view in showing that by sufficiently thorough dietary control the downward progress of most cases of diabetes is either halted or almost indefinitely delayed.

Alcohol in Diabetes Diet.—The experiments on two patients with severe diabetes support the prevailing belief that ethyl alcohol is not converted into sugar in the body. At the same time, they are interpreted as signifying that the addition of calories in the form of alcohol in excess of the patient's caloric tolerance produces a return of glycosuria and other diabetic symptoms. The experiments also corroborate the prevailing view that alcohol is not converted into acetone in the body. No antiketogenic action was demonstrable; on the contrary a slight production of acetone seemed to be caused when alcohol was given in considerable quantities. Luxus diets formed by the addition of alcohol or a mixture of fat and alcohol to a standard diet gave rise to very much less acidosis both chemically and clinically than similarly excessive diets built up by the addition of fat alone. The former therapeutic use of alcohol is thus justified, with respect to the lessened danger of acidosis when part of the fat of a high caloric diet is substituted by alcohol. The experiments do not establish such a fact for undernutrition diets, or warrant attempts to prevent combustion of body fat by administration of alcohol. On the contrary, the conversion of an undernutrition diet into a luxus diet by addition of alcohol may result in an actual increase of acetone. With additions of alcohol, just as with additions of fat, the high caloric rations which were hoped to increase the weight and strength of emaciated patients failed to do so. As usual, the patients were stronger and more comfortable on diets which controlled their diabetes than on higher allowances which produced a return of diabetic symptoms.

Overnutrition in Diabetes.—Experiments on two patients with severe diabetes demonstrated the production of hyperglycemia in consequence of adding excessive calories to the diet in the form of either fat or alcohol.

Relation Between Fertility and Nutrition.—Evans and Bishop aim to lay a foundation for the study of aberration in ovulation due to defective diet. It attempts to establish the time of occurrence of the first oestrus and the normal ovulatory rhythm in rats maintained on a satisfactory nutritional regimen. Comparisons have been made between the performance of animals on a generous and varied diet in the form of abundant table scrap rations, and animals on a standard nutritional regimen. Significant differences in the behavior of the two groups were not observed. In 80 per cent. of animals handled in this way the first oestrus occurs between the thirty-seventh and the fifty-fifth day of life, on the average on the forty-seventh day, and when a sufficient number of oestrus cycles are observed about three fourths of all oestrus cycles are five days or less in length, approximately one fourth being of longer duration.

Medical Record, New York

March 11, 1922, **101**, No. 10

*Biologic Dosage of Roentgen Ray. F. C. Wood, New York.—p. 399.
Chemistry of Phosphorus in Brain Activity. W. H. Porter, New York. —p. 402.
Oral Surgery, Department of Gastroenterology. J. W. Draper, New York.—p. 405.
Oral Surgery, Department of Gastroenterology. G. R. Satterlee, New York.—p. 408.
Incipient Epilepsy: Its Diagnosis and Treatment. E. A. Tracy, Boston.—p. 410.
Aches and Pains of Internal Disease. O. V. Huffman, New York.—p. 414.
Prophylactic and Corrective Value of Footgear. A. H. Hansen, New York.—p. 416.
Place of Modern Medical Laboratory in Diagnosis of Disease. L. Achard, New York.—p. 418.

Biologic Dosage of Roentgen Ray.—Wood has this to say about the roentgen ray in the treatment of cancer: Unfortunately, roentgen-ray treatment is now apparently entering the phase of exaggerated enthusiasm. A number of absurd claims as to the great therapeutic value of the rays, especially those from the newly developed types of roentgen-ray machines, have been made. These new machines, however, yield effective voltages at the most not much more than 40 per cent. higher than those of the old type; and that a machine running at 200,000 or even 250,000 volts could produce miracles, where one running at 150,000 volts did not, Wood says, would be an interesting phenomenon, especially when it is considered that the only advantage of the higher voltage is in the greater output of short wave lengths from the tube, with a corresponding ability to put a larger dose of roentgen rays in a shorter time into the deeper tissues of the body. The phenomenon would be the more remarkable since radium, which gives off an abundance of rays corresponding to 200,000 to 250,000 volts, is still acknowledged, by even its most enthusiastic supporters, to be powerless to effect a cure in many types of internal cancer. Another reason for deprecating the raising of any undue hope concerning the effectiveness of the new roentgen-ray apparatus in the permanent cure of cancer is the fact that, as shown experimentally in the Crocker Institute, the rays produced by high voltages are no more potent in killing standard animal tumors than are any other types of roentgen ray, about five erythema doses being required, no matter what the voltage or the filtration. Hence, as the erythema dose is still the limit of the amount of radiation which can be given to internal tumors, the sole gain from the therapeutic point of view is the increased penetration and greater output of useful radiation from the tube. While, therefore, it may be confidently expected that the employment of voltages up to 300,000 will offer a distinct advance in the effectiveness of our methods of treatment as soon as roentgen-ray tubes which will run effectively at a voltage of 250,000 or above are built, it is equally certain that the operation of these machines will require so much technical knowledge and will be fraught with so many perils to the patient (not on account of short circuits, as is commonly assumed by the layman, but because of the large yield of roentgen ray which can be passed through the body) that their use will be limited to institutions or to highly trained specialists. The therapeusis of cancer will by this simple step be placed on a much better basis than it is at present, when so many physicians in the possession of a few milligrams of radium are treating all types of cancer, and those with old fashioned low voltage transformers are attempting deep therapy, with the sole result that the tumor either is not influenced or is stimulated.

Michigan State Medical Society Journal, Grand Rapids

March, 1922, 21, No. 3

Verumontanum and Its Relation to Hematuria, Nocturnal Emissions and Its Treatment. R. Rosen, Detroit.—p. 123.
Cancer Week in Detroit. H. C. Saltzstein, Detroit.—p. 125.
Pyelitis of Pregnancy. S. Levin, Lake Linden, Mich.—p. 128.
Luetin Test in Latent Syphilis. A. E. Van Nest, Detroit.—p. 132.
*Unusual Case of Obstruction of Bowel Associated with Hydronephrosis. I. D. McCoy, Cass City, Mich.—p. 133.
*Malignant Teratoma of Kidney. L. Dretzka, Detroit.—p. 134.
Henoch's Purpura. S. Wilson, Detroit.—p. 136.
Future Public Health Interests and Activities. J. Sundwall, Ann Arbor.—p. 137.

Intestinal Obstruction Caused by Hydronephrosis.—In McCoy's case the intestinal obstruction was caused by a tumor from the left kidney which extended into the abdomen. The splenic flexure and a portion of the descending colon were lateral and behind the tumor and were completely "pinched" between the lateral abdominal wall and the mass. About 2,000 c.c. of urine was drained from the kidney pelvis. The kidney was very much enlarged, but otherwise was apparently normal. No stone or kink was found in the ureter. Four months later the boy again became severely ill with pain, obstruction of the bowel and obstruction of the left ureter. Roentgen-ray examination showed a ureteral kink. A nephrectomy was done from which the patient made an uneventful recovery.

Malignant Teratoma of Kidney.—Dretzka's patient was 6 years of age, with no early history of any moment. His family history was negative. His illness began or was first noticed in January, 1921—a brownish muddy urine on micturation which was thought to be of no significance and was disregarded by parents. The muddy urine was not constant but reappeared about once each week. Four months later, the mother noticed a small nodule (walnut size) in the upper left quadrant. It was hard but not tender, and within five months it grew to the size of a large grape fruit. The child slept well, did not complain of pain and her appetite was good. Examination disclosed an abdomen of uneven outline. A mass was visible in the left hypochondrium and lumbar region about the size of the child's head. It was slightly movable, regular in outline and firm in consistency. There were prominant and superficial veins on the abdomen. An attempt to catheterize the ureters was unsuccessful. The kidney was removed. Recovery was uneventful. Diagnosis: malignant teratoma.

New York Medical Journal

March 1, 1922, 115, No. 5

Modern Commentaries on Galen. His Formulation of Humoral Doctrines. J. Wright, Pleasantville, N. Y.—p. 245.
Metabolism During Starvation and Undernutrition. F. G. Benedict, Boston.—p. 249.
Diagnosis and Differential Diagnosis of Early Hip Joint Disease in Childhood. J. T. Rugh, Philadelphia.—p. 256.
*Recurrent Lobar Pneumonia. W. G. Thompson, New York.—p. 259.
Pneumonia. A. C. Morgan, Philadelphia.—p. 260.
Treatment of Focal Infection of Throat by Roentgen Ray Compared with Surgical Removal of Tonsils and Adenoids. W. D. Witherbee, New York.—p. 261.
Group Diagnosis. H. E. Smith, New York.—p. 263.
Reply to Certain Antagonistic Criticism of Nonsurgical Biliary Tract Drainage. B. B. V. Lyon, Philadelphia.—p. 269.
Blood in Digestive Tract. L. W. Kohn, New York.—p. 276.
Local Anesthesia in Dental, Oral, Nose and Throat Surgery. H. E. Tompkins, New York.—p. 279.
Race Immunization. C. L. Redfield, Chicago.—p. 282.
Twins and Problem of Heredity. M. P. E. Grosszmann, New York.—p. 284.
Relationship of Precordial Distress to Extracardiac Conditions. E. C. Reifenstein, Syracuse, N. Y.—p. 287.

Recurrent Lobar Pneumonia.—Thompson records a case in which pneumonia recurred in a robust man, 35 years of age, in three successive years (during which there was no influenza), the interval between the first and second attacks being eighteen months and between the second and third attacks thirteen months. In each attack the physical signs and mode of onset were absolutely typical of the ordinary acute lobar pneumonia with chill, pain in the chest, cyanosis, rusty sputum, dyspnea and a leukocytosis ranging from 19,000 to 25,000. In the first two attacks, a typical crisis took place on the sixth day in the first attack, and the fifth day in the second attack, so that when the third attack came the patient's attendants in the hospital stood, watch in hand, awaiting another crisis, but it did not appear and the subsidence was by lysis, from the eighth to the tenth day. The first two attacks involved the left lower lobe and the third attack, in which subsidence was by lysis, involved the right upper lobe. In a second case the attacks occurred in a man, 24 years of age, with an interval of eleven months between them during which he remained in robust health. In the first attack the crisis occurred on the fifth day with extraordinary abruptness, the fall of temperature amounting to 8 degrees in twelve hours and being followed, as is usual in cases in which the temperature becomes markedly subnormal, by a rebound of one or two degrees above the normal for a couple of days. The second attack, lasting eight days, was followed by a similar, but slower crisis with a fall in temperature also of nearly 8 degrees but with a less decided and more brief rebound above the normal.

Philippine Islands Medical Association Journal, Manila

September-October, 1921, 1, No. 5

Physicians as Expert Witnesses. S. de los Angeles.—p. 181.
Endocarditis Due to Streptococcus Viridans. Report of Cases. A. G. Sison, A. Bautista and P. Lantin.—p. 185.
*Culion Leper Colony, Philippine Islands. A. Catanjal.—p. 191.
Case of Meningitis, Arthritis and Epididymitis Due to Mixed Pfeiffer Bacillus and Pneumococcus Infection. W. de Leon.—p. 195.
Experiences in Sulu Public Hospital (1918-1920). S. Y. Orosa.—p. 198.

Culion Leper Colony.—This report shows that the segregation of lepers at the Culion Leper Colony reduced in 1918 (the twelfth year of segregation) the deaths caused by leprosy in the Philippines to 65.32 per cent. of the deaths caused by this disease in 1903 (three years before segregation). The total cases of leprosy found in all the islands and admitted to Culion were reduced in 1918 to 66.91 per cent. of the lepers found at the beginning of the segregation.

Rhode Island Medical Journal, Providence

March, 1922, 5, No. 3

Treatment of Peptic Ulcer. G. A. Matteson, Providence, R. I.—p. 207.
Hypertrophy of Thymus Gland. H. E. Utter, Providence, R. I.—p. 210.
What Can Be Done for Deaf in Rhode Island. F. T. Rogers, Providence, R. I.—p. 213.

Wisconsin Medical Journal, Milwaukee

February, 1922, 20, No. 9

Use of Antiserum in Streptococcus Septicemia. H. E. Marsh and C. O. Vingom, Madison.—p. 444.
*Effect of Occlusion of Coronary Arteries on Heart's Action and Its Relationship to Angina Pectoris. W. T. Longcope, New York City.—p. 449.
Relation that Exists Between Hypertension, Myocarditis and Nephritis. H. A. Christian, Boston.—p. 455.
Tumors of Breast from Standpoint of General Practitioner and General Surgeon. A. D. Bevan, Chicago.—p. 460.

Effect of Occlusion of Coronary Arteries.—Longcope states that sudden stoppage of the circulation in one or the other coronary artery which is otherwise normal probably leads to immediate or fairly sudden death, possibly from fibrillation of the ventricles. Thrombosis usually but not invariably occurs in arteries that are previously diseased and narrowed by sclerosis. Occlusion either by thrombosis or sclerosis under these circumstances may be compatible with life for varying periods of time, though death, when it comes, is usually sudden. In a small group of cases the disease pursues its course as a rapidly progressive cardiac insufficiency without features of particular note. But in the great majority of cases there are significant symptoms and signs that frequently allow of a fairly accurate diagnosis. Most important of these are pain often, with a particular radiation, the appearance of transient pericardial friction rubs, often associated with the acute onset of myocardial insufficiency, and various forms of tachycardia and cardiac arrhythmia, all occurring in an elderly person usually without signs of valvular heart disease. Unfortunately there does not seem to be any one electrocardiographic sign that occurs in all cases. Seventeen cases in which the final diagnosis was made at the necropsy are analyzed.

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below. Single case reports and trials of new drugs are usually omitted.

Brain, London

January, 1922, 44, No. 4

*Distortion of Visual Fields in Cases of Brain Tumor. II. Field Defects Produced by Temporal Lobe Lesions. H. Cushing.—p. 341.
Reflex Movements and Postural Reactions in Quadriplegia and Hemiplegia, with Especial Reference to Those of Upper Limb. G. Riddoch and E. F. Buzzard.—p. 397.
Dyssynergia Cerebellaris Myoclonica — Primary Atrophy of Dentate System: Pathology and Symptomatology of Cerebellum. J. R. Hunt, New York.—p. 490.
Disorders of Movement Resulting from Loss of Postural Tone; Cerebellar Ataxy. F. M. R. Walshe.—p. 539.

Distortion of Visual Fields in Brain Tumor.—In Cushing's experience the temporal lobe is a common seat of cerebral tumor (fifty-nine cases in a series of 276 verified supratentorial tumors). In fifty-nine verified temporal lobe tumors, perimetry, owing to the advanced stage of the process, was precluded in twenty cases, but of the remaining thirty-nine homonymous field defects, indicating involvement of the temporal loop of the optic radiation, were present in thirty-three instances. Heretofore, the most important symptom for temporal lobe localization has been the occurrence of the so-called uncinate fits, but in this series, even including as such all attacks of petit mal without gustatory impression, they have been recorded in twenty-four cases only. Visual hallucinations have been a frequent symptom of the temporal tumors in this series (thirteen out of the fifty-nine cases). Auditory phenomena in this series are conspicuous by their absence. In a few cases only has there been tinnitus and rarely some lowering of sound perception. The chief errors of diagnosis arise (1) when, with a total median hemianopsia, the occipital lobe is considered to be the tumor seat; (2) in the absence of demonstrable field defects, when symptoms supposedly of cerebellar origin are to the fore. Hence, it is fair to conclude that perimetry gives information of paramount diagnostic value, particularly in the early recognition of temporal lobe tumors, the partial field defects short of a hemianopsia being especially characteristic of involvement of the optic radiation in this region.

British Medical Journal, London

Feb. 25, 1922, 1, No. 3191

*Nature and Cause of Old Age Enlargement of Prostate. K. M. Walker.—p. 297.
*Metabolism of Children Undergoing Open Air Treatment, Heliotherapy and Balneotherapy. L. Hill and J. A. Campbell.—p. 301.
Streptococcal Infection by Nasal and Buccal Paths. D. C. Edington.—p. 304.
*End Results of Sanatorium Treatment of Tuberculosis: Record of Seventeen Years' Sanatorium Work. F. W. Burton-Fanning and W. J. Fanning.—p. 306.
*Hemorrhagic Colitis. J. W. G. Grant.—p. 308.
Intrapleural Pressures in Artificial Pneumothorax. J. Lawson.—p. 309.
*Case of Megacolon. E. R. Flint.—p. 310.
Gastro-Enterostomy and Some Dietetic Rules. J. O'Conor.—p. 310.

Cause of Enlargement of Prostate.—The view is advanced by Walker that an enlarged prostate is to be regarded as a prostate that has undergone a form of degeneration which, for the sake of convenience, may be termed fibrocpithelial. The condition may be considered in the light of an accident that has occurred during the period of involution of the genital tract. An analogy to this in the case of a female may be found in the somewhat obscure condition known as a serocystic disease of the breast. The breast, like the prostate, is one of the secondary sexual glands. It is in intimate association with the ovary, just as the prostate is with the testis. Finally, the breast shares with the prostate the same tendency to develop lesions during the period of sexual decline. In serocystic disease is present the same formation of intra-acinous growths as the result of epithelial proliferation. There is the same tendency to dilatation of the acini and an equal absence of round cell infiltration, or of other signs of inflammation. Moreover, the changes in the breast show the same patchy distribution that is characteristic of the prostatic condition, one group of glands being markedly affected while another remains free. The most obvious difference between the prostatic and the breast lesions is the presence of fatty degeneration in the former case and its absence in the latter. The close dependence of the prostate on the ductless glands during its period of development affords sufficient ground for considering carefully the possibility that enlargement may be associated with some change in the endocrine system. Enlargement of the prostate is a condition having a definite distribution that is anthropologic rather than geographic in character. Whereas, the condition is common in the Circassian race generally, both in Europe and in the New World, it is somewhat less frequently found among those of Semitic and Arab stock, and among the inhabitants of India. Among Mongols and Negroes, it is extremely rare. Enlargement can have nothing to do with the causes that have at various times been suggested as determining its incidence—that is, previous attacks of gonorrhea, sexual excess, masturbation, etc.—for the races that are more or less immune from enlargement are the very races in which these supposed causes are most in evidence. Generally speaking, enlargement is commoner among meat eaters and those leading the sedentary lives of cities than among the vegetarians and frugal livers.

Metabolism of Children Undergoing Open Air Treatment.—Observations on metabolism of children crippled with surgical tuberculosis and lying fixed in splints in bed and more or less nude are described by Hill and Campbell. Their metabolism on the average was increased 40 per cent. above the standard, for the same weight, of children confined in a closed calorimeter. After three months' treatment, including graduated exposure to open air and heliotherapy, their metabolism out of doors was 20 per cent. above that in well ventilated cubicles soon after admission. Children who had been treated for many months showed high metabolism in the out of door conditions, those who pigmented well in the sun giving about the same figures as those who did not pigment well, after making allowance for weight. The former gave the better figures for weight. It is considered that the rise in metabolism caused by heliotherapy per se is insignificant compared with that caused by exposure to open air. At the same time, the value of heliotherapy as a factor toward arrest of the disease is not disputed. Children on admission in well ventilated cubicles gave results about 20 per cent. higher than basal standards for closed calorimeters. It is considered that the open air conditions in the former were mainly responsible. Balneotherapy increases metabolism much above the resting level. The bodily tone and general condition of the children under the specially graduated treatment is remarkable when the long period of immobilization in splints in bed is considered. The treatment might be applied in other cases involving long confinement in bed.

End-Results of Sanatorium Treatment of Tuberculosis.—Between 1903 and 1919 sanatorium treatment was given at Kelling Sanatorium to 3,220 patients. Of this number 460 have been lost sight of, so there remain for consideration 2,760 patients. There were living in 1921, 1,125, or 40.7 per cent. The different results according to the patient's classification on admission were: Class I, 1,118 patients, 64.7 per cent. living, 35.2 per cent. dead; Class II, 801 patients, 34.2 per cent. living, 65.7 per cent. dead. Class III, 841 patients, 15 per cent. living, 84.8 per cent. dead. Of those that died, death occurred as follows: Within 1 year, 6 per cent.; within from 1 to 5 years, 57.6 per cent.; within from 5 to 10 years, 23 per cent.; within from 10 to 15 years, 9.2 per cent.; within from 15 to 20 years, 2.9 per cent. Of all the patients who died after receiving sanatorium treatment, the average length of time between the appearance of the first definite symptoms and death was just over five years.

Hemorrhagic Colitis.—The two cases cited by Grant differed from tropical dysentery in that there was no ulceration, and neither the bacillus of Shiga nor *Endameba histolytica* could be found. There was a remarkable absence of pain in each. The mucous membrane presented a uniform granular appearance, which in the second case was observed to extend from rectum to the splenic flexure, and which probably involved the whole lower bowel.

Megacolon.—Flint's patient, a man, aged 32, was born with an imperforate anus, for which an operation was performed

twenty-four hours after birth. The rectum was opened at a depth of three-quarters inch from the perineum and the edges stitched to the skin. The subsequent history was one of continual trouble from constipation. His complaint was enormous distension and difficulty with bowel movements, and when this was at its worst he would get a form of diarrhea with incontinence. Flint removed the sigmoid and upper part of the rectum. The sigmoid was enormous, the two limbs being the size of an average male thigh, and the apex of the loop was beneath the liver. The wall was markedly hypertrophied. The segment of bowel removed was 2 feet 6½ inches long, 22 inches in circumference, and weighed 11 pounds.

Lancet, London

Feb. 25, 1922, **1**, No. 5139

*Researches in Color Vision. F. W. Edridge-Green.—p. 357.
Some Points on Spasm in Alimentary Tract. G. de Bec Turtle.—p. 361.
*Gamma Rays and Malignant Disease. R. Morton.—p. 364.
Deep Roentgen-Ray Treatment of Cancer: Personal Impression of Erlangen Frauenklinik. H. K. Ward.—p. 366.
Case of Sclerema Neonatorum. E. Bourne.—p. 368.
*Application of Methods of Correlation. C. P. White.—p. 369.
*Unusual Accident During Appendicectomy. F. J. W. Porter.—p. 371.
Case of Puerperal Septicemia; Recovery. J. H. Robinson.—p. 371.

Researches in Color Vision.—Many new facts given by Edridge-Green are so novel and unexpected that, he says, much further research is needed before a definite explanation can be given of the underlying physiologic processes. Such, for instance, is the fact that when one eye has been fatigued with spectral red light, the other eye sees white as reddish or any mixture as if red had been added to it, and that many color blind persons will agree with the normal white equation and others who will agree with it in some cases when the comparison white light is diminished and in other when increased in intensity, thus matching two white lights of unequal luminosity. Defects of light perception are quite distinct from defective color discrimination. All degrees of color discrimination may be classified as dichromic, trichromic, tetrachromic, pentachromic, hexachromic and heptachromic.

Gamma Rays in Malignant Disease.—As to the relative advantages of radiology and surgery for the relief of victims of malignant disease Morton believes there are grounds for thinking that before many years surgery may become auxiliary to radiology. He says evidence is overwhelming that radiology can be of the greatest assistance in dealing with malignant disease, recognition of which should lead surgeons and gynecologists to seek the radiologist's cooperation as soon as the nature of the case is determined before treatment has been applied. This is the only form of cooperation that can be of real help in improving the patient's chances of recovery.

Secretion of Salts from Kidney.—The results obtained by White appear to favor most strongly the view that certain substances (sodium, potassium, chlorin) are excreted in association with the water and hence through the glomeruli. Other substances (urea, uric acid, sulphate) are excreted independently of the water and, therefore, presumably through the tubules. Others again (phosphorus, magnesium, calcium), appear to hold an intermediate position, possibly being excreted by both channels. This investigation supports the secretion rather than the filtration theory. The association of urea with sulphuric and phosphoric acids is an interesting point which demands further investigation. There is no indication of the excretion of uric acid as sodium urate, but there are indications of calcium and potassium urates. Potassium appears to be excreted almost entirely as chlorid, but some urate may be present. Sodium is excreted as chlorid, phosphate and sulphate. Calcium and magnesium are excreted as chlorids, phosphates and sulphates; possibly also urates. There are no indications of the excretion of alkali salts of ethereal sulphuric acids. The negative correlation between ethereal sulphuric acid and water requires further investigation.

Tear of Cecum During Appendicectomy.—In Porter's case the cecum sustained a rent 1 inch long when the peritoneum was incised. The cecum was acutely distended and the walls had become very thin, and as soon as the pressure of the abdominal wall was relieved over a small area by incising the peritoneum the intestine burst.

Medical Journal of Australia, Sydney

Jan. 14, 1922, **1**, No. 2

*Hemolytic and Water Fevers. W. J. Penfold and D. G. Robertson.—p. 29.
**"Mestizos" of Kisar, Dutch East Indies. J. S. C. Elkington.—p. 32.
Treatment of Gonorrhea in Male in General Practice. N. M. Gibson.—p. 34.
Torsion of Small Intestine. H. T. Illingworth.—p. 37.
Case of Glioma of Optic Nerve. J. L. Gibson.—p. 38.

Hemolytic and Water Fevers.—Further experiments by Penfold and Robertson as to the existence of hemolytic fever confirmed previous observations. No reliable evidence of simple pure hemolytic fever exists. The fever in paroxysmal hemoglobinuria is due to some unknown cause.

Effect of Long Residence in Tropics.—Elkington discusses the results of an investigation which threw much light on the effect of residence in the tropics on white persons. Nine families of originally north European or mixed north European and native blood have persisted on Kisar for more than 100 years and have bred to five and six generations. In the case of one family, the known date of birth of the eldest Kisar born child of European blood was 1789. His descendants down to the year 1914 numbered thirty-eight at least and possibly more. His father was born at Macassar in 1767, giving an uninterrupted period of tropical residence for this family of 154 years on the paternal side and at least 135 years on the maternal side. This has not been accompanied by loss of European characteristics of complexion and features, except as a result of admixture of native blood, and that even when so diluted the European physical characteristics still come out strongly in the fifth and sixth generations. The European standard of mentality, as shown by reaction to European methods of education, persists in substantial degree after five and six generations. These characteristics have survived in spite of environmental conditions and associations lasting for over sixty years, from 1819 onward, and probably for seventy years or more, which are generally supposed to be totally unsuitable for persons of European stock. These conditions have included native standards of food and food supply, endemic malaria, the psychologic effect of what must have been for the earlier generations an acute sense of abandonment by their own race, life under the rule of native chiefs, constant association with a native race of low mentality, loss of European language and European religion, interbreeding to a high degree and constant exposure to a tropical climate. There is nothing in the available history of these people to show that a tropical climate per se has tended to produce degenerative effects on them or to limit fertility. Whatever evidence they may have shown of lowered physical or mental activity in the past can be fully explained by the environmental conditions of food supply, malaria and particularly of native association, aided, possibly, by the accentuation of stock weaknesses arising from interbreeding over several generations.

Medical Journal of South Africa, Johannesburg

January, 1922, **17**, No. 6

Use of Thomas Knee Splint in Leg Injuries. M. G. Pearson.—p. 109.
Pelvic Inflammation. A. S. Wilson.—p. 112.

South African Medical Record, Cape Town

Jan. 28, 1922, **20**, No. 2

Modern Dietetic Treatment of Diabetes Mellitus. E. P. Baumann.—p. 22.
*Therapeutic Artificial Pneumothorax: Its Indications, Scope and Results. D. P. Marais.—p. 28.
*Spheroidal Cell Carcinoma of Appendix. E. B. Fuller and G. B. Bartlett.—p. 34.

Therapeutic Artificial Pneumothorax in Tuberculosis.—Summarizing the results obtained in fifteen tuberculous cases, in which this treatment had a fair trial, and in which it had been carried to a conclusion, Marais finds that ten patients, or 66.6 per cent., are today in good health, and in five cases, or 33.3 per cent., the prognosis was bad or indifferent. These fifteen cases all presented severe pulmonary tuberculosis with meager prospects of recovery, hence Marais concludes that the credit which lies to the operation is no small one.

Spheroidal Cell Carcinoma of Appendix.—In this case there had been no symptoms to suggest appendix trouble, but after removal of an ovarian cyst the condition of the appendix was noted as a routine measure. It was lying free with no adhesions, but the distal end was clubbed with a hard swelling about the size of a small marble. No enlarged glands were found in the neighborhood. The appendix was removed. Examination of the swelling showed that it was a basal cell carcinoma ("rodent ulcer").

Bulletin de l'Académie de Médecine, Paris

Jan. 24, 1922, **87**, No. 4

Research of Fenton B. Turck on Traumatic Shock. Quénu.—p. 92.
*Preventive Vaccination Against Typhoid. C. Achard.—p. 105. Id. O. Crouzon.—p. 108.

Nine Years of Vaccination Against Typhoid.—This is the report of the station which vaccinates the hospital nurses: 5,178 have thus been vaccinated. Among the 1,739 nurses in this hospital only one contracted typhoid after vaccination.

Bulletin Médical, Paris

Jan. 28, 1922, **36**, No. 5

Diagnosis of Skin Diseases. L. Brocq.—p. 67.
How We Injure Our Hair. R. Sabouraud.—p. 70.
Ultraviolet Rays in Dermatology. P. Charpy.—p. 73.
The Care of the Skin. Veyrières and Beauxis Lagrave.—p. 76.
*Treatment of Eczema. Veyrieres and Ferreyrolles.—p. 79.

Treatment of Eczema.—Veyrières and Ferreyrolles comment on the old treatment of burns with ink, which gave them the idea of applying a solution somewhat similar for the treatment of eczema. Under this application the vesicles seem to retrogress and dry at once, and in most cases no dressing was necessary. Although they do not pretend to have discovered a treatment for eczema, they believe, however, that if used in certain cases and at certain periods, it will undoubtedly prove valuable. The inklike solution they use is a mixture of 10 parts ferrous sulphate; 100 parts distilled water and 2 drops of sulphuric acid. When this application has been applied and has dried on, they apply a solution of 100 parts nutgall in 200 parts water. This solution is boiled for a long time and a little salicylic acid is added to prevent mold.

Encéphale, Paris

January, 1922, **17**, No. 1

*The Theory of Neurobiotaxis. C. U. Ariëns Kappers.—p. 1.
*Disease of the Pons. André-Thomas.—p. 20.
*Pathogenesis of Psychoses. E. Dupré and Trepsat.—p. 31. Cont'd.
*Arsphenamin in General Paresis. J. R. de Fursac and Furet.—p. 38.

Neurobiotaxis.—This is Kappers' tenth publication on the development of the neuron. He here discusses the nutritive tropism of the dendrites and its relation to neurobiotactic phenomena in general.

Disease in the Pons.—Thomas' patient was an unusually intelligent man of 50 who recorded his symptoms so that the evolution of the sensory and motor disturbances could be regularly traced. The crossed symptoms, and the improvement in the sensory symptoms in the course of years were features of the case.

Repressed Emotions in Genesis of Certain Psychoneuroses.—This is the last work on which Dupré was engaged at the time of his death. He emphasized the importance of emotivity and repressed emotions as factors instrumental in bringing on certain forms of mental disease. He refers in particular to what Janet calls "restriction of the consciousness field," as the abnormally small reserve of psychic energy in such persons is thus absorbed and diverted from its proper sphere.

Arsphenamin in General Paresis.—De Fursac and Furet report the results of arsphenamin treatment in 43 cases of general paresis, from September, 1920, to October, 1921. The treatment was given to 52 patients but was suspended in 9 at the very beginning on account of intolerance, intercurrent affection or transfer of patient to his family or to another hospital. The following results were obtained in the remaining 43 cases: No results in 15; strikingly notable remission in 10; appreciable remission in 10; arrest of the disease without noticeable improvement in 8. This shows that if arsphenamin treatment does not cure those with general paresis, it is at least capable of improving their condition. Spontaneous remissions could scarcely reach such notable proportions. These results demonstrate that arsphenamin treatment of general paresis, given in small doses, often repeated, up to a total of 9 gm., is without danger. Furthermore it produces remissions, and in certain cases psychic remissions, equal to recoveries.

Journal de Médecine de Bordeaux

Feb. 10, 1922, **94**, No. 3

*Postpuerperal Pericolitis. J. Péry.—p. 75.
Artificial Pneumothorax in Treatment of War Wounds of Lung: 3 Cases. G. Bardon.—p. 78.
*Two Cases of Granulitis. R. Cruchet and Gandy.—p. 81.
*Digestive Hemoclasis and Liver Functioning. P. Mauriac.—p. 83.
*False Asthma. E. Lagrave.—p. 85.
The Thyroid Function and Procreation. M. Favreau.—p. 87.

Puerperal Pericolitis.—Péry describes three cases of puerperal pericolitis in women of 26, 24 and 32 following childbirth or abortion. In his first case the severe pains developed abruptly, and during the night the patient evacuated, with solid stools, a greenish and ill-smelling pus. The following morning, with temperature of 36.4 C. the pains had disappeared and she declared herself cured. Examination showed nearly the same previous clinical symptoms, but the tumefaction and tenderness had decreased and in a few days the inflammatory mass had entirely disappeared. In his second case the inflammatory condition was not so pronounced, and the peri-intestinal phlegmon spontaneously subsided under medical measures. The cecum was the site of the disturbance, but the large intestine was involved in both the cases. Péry's third patient, with temperature of 38.2 C., complained of pain in the left iliac fossa above and outside the adnexa. Palpation revealed diffuse doughiness extending to the sigmoid flexure. Application of ice relieved the pain. By the seventh day after the abortion, conditions became normal and complete recovery soon followed. Thus, in the three cases observed by Péry the serious or even grave inflammatory symptoms occurred in the large intestine in parturients, but all recovered smoothly with no symptoms from the genital sphere.

Two Cases of Miliary Tuberculosis.—Cruchet and Gandy report two cases of granulitis in young women, one 24 and the other 18, both servants, and with the same evolution and speedily fatal outcome in each case.

Digestive Hemoclasis Test.—Maurice disputes the value of Widal's test digestive leukopenia as evidence of insufficiency of the liver. He declares that the number of leukocytes fluctuates within such a wide range in physiologic conditions that it is scarcely wise to assume that the liver is deranged when the leukocytes drop during digestion of a glass of milk, taken fasting. At least we must have a broad basis of experiences and prolonged observation before we can accept the findings of this test as reliable.

False Asthma.—Lagrave warns that a new wool mattress is liable to induce respiratory disturbances in certain persons. He theorizes to explain this, and warns against this possible source of supposed asthma.

Journal de Radiologie, Paris

January, 1922, **6**, No. 1

Roentgen-Ray Examination of Pleuropulmonary Affections in Children. E. Weill and A. Dufourt.—p. 1.
Radiography of Branchial Fistulas. R. Leriche and A. Badelle.—p. 12.
Roentgenoscopy of Interlobar Fissures of Lungs. Gilson.—p. 14.
*Spinal Affection Simulating Pott's Disease. J. Calvé and M. Galland.—p. 21.
Diagnosis of Diaphragmatic Hernia. Bouquet et al.—p. 24.
Apparatus for Radium Treatment of Buccopharyngeal Neoplasms. A. Jentzer.—p. 27.

Spinal Affection Simulating Pott's Disease.—Calvé and Galland report a case of calcification of the nucleus pulposus in a woman of 72. She had been treated for two years for Pott's disease. They were unable to find a similar case in the literature.

Paris Médical, Paris

Feb. 11, 1922, **12**, No. 6

*Malignant Malaria in France. G. Paisseau and Loubrieu.—p. 117.
The Spinal Fluid in Diphtheric Paralysis. G. L. Hallez.—p. 119.
*Technic for Lumbar Puncture. G. Milian.—p. 123.

Malaria in France.—There have now been recorded, since the war, eighteen cases of autochthonous malaria in France with the parasite of malignant tertian in the blood.

By-Effects of Lumbar Puncture.—Milian is convinced that oozing of the fluid through the gaping puncture hole is one of the factors in the disagreeable by-effects of lumbar puncture. The dura tissue is not elastic, and the hole keeps open, but this can be corrected by having the patient lie in the knee-chest position, curving the back inward. In ten minutes of this, the lymph and fibrin of the tissues form a thin clot over the puncture hole, as the fluid flows away from it toward the head. Then the patient can change to the reclining position, lying on his abdomen, not on his back, keeping the head lower than the pelvis by raising the foot of the bed with a brick. This position is maintained for twenty-four hours. For a change, he can recline on the side opposite the puncture. If headache or vomiting follow the puncture, keeping flat in bed is the only relief, and morphin is the only effectual sedative in these conditions. When the pains and vomiting persist for ten days or more, hysteria is probably involved, and under verbal suggestion these pithiatic phenomena disappear.

Schweizerische medizinische Wochenschrift, Basel

Feb. 9, 1922, **52**, No. 6

*Sphygmographic Arteriometry. H. Sahli.—p. 133.
*Epidemic Encephalitis. R. Bing and R. Staehelin.—p. 142.
*Scarlet Fever at Zurich. H. Rothpletz.—p. 145.
*Serodiagnosis of Tuberculosis. A. Grumbach.—p. 147.

Measurement of Lumen of Artery.—Sahli here describes what he calls the sphygmographic arteriometer which, he says, aids and perfects the whole system of study of the laws of motion and force in the pulse, especially his volume sphygmobolometer. The pulse volume and the pulse force can be estimated from the arteriometric findings. This will aid in restoring sphygmography to its proper place as a universal hemodynamic method, he says, instead of the prevailing disregard of everything except the rhythm.

Epidemic Encephalitis.—Bing and Staehelin have been tracing backward to the first symptoms 97 cases of epidemic encephalitis. The direct mortality was about 20 per cent. but a number committed suicide later in despair at their hopeless condition of parkinsonism. The latter may subside, but this is exceptional, and only when the parkinsonism is not of the tardy developing, malignant type. The myoclonic form of the disease proved more malignant than the choreic form. There was recovery in the lethargic form only in 25 per cent. of the cases. In 50 per cent. parkinsonism followed, sometimes after an interval of apparent health for several months up to more than a year. In 11 cases the tardy parkinsonism is growing more pronounced. Of the total 97 cases, only 24 of the 80 well defined cases can be regarded as cured.

Scarlet Fever in Zurich.—Analysis of 3,912 cases of scarlet fever at Zurich during the last eight years fails to show connection with the school. The 1,519 cases in the public schools were distributed among 1,153 different school classes. There was one case in 2,669 houses and two or more members of the family had the disease in only 418 families. The children were younger than 6 in 1,624 of the cases; the 2 oldest patients were 57 and 58. Return cases were observed six or eight weeks after the onset of the disease or even later. Scarlet fever does not seem to be very contagious in the early stages. Early diagnosis and isolation almost invariably prevents any further spread of the disease.

Serodiagnosis of Tuberculosis.—Grumbach explains the occasional negative results of serologic tests in unmistakable tuberculosis as due to the fact that the organism has not yet had time or force enough to produce enough free antibodies to induce the reaction. The antibodies bound to the antigen have no influence on the test reaction. When the antigen is in excess, the test should be made with an antibody, not with more antigen. By applying in this way both forms of the serologic test, we obtain a positive reaction with one or the other, and have no further negative reactions in unmistakable tuberculosis except in the rare cases in which antigen and antibody exactly balance each other for the time being. By repeating these serologic tests from time to time we obtain a more reliable basis for the prognosis than has been available hitherto.

Feb. 16, 1922, **52**, No. 7

*Cesarean Section with Fever. M. Walthard.—p. 161.
Prevalence of Diabetes at Basel. H. Hunziker.—p. 168.
*Progressive Pernicious Anemia. A. Alder.—p. 172.
*Infection and Insufficiency of the Liver. M. Bourcart.—p. 175.

Prophylaxis of Puerperal Fever.—In 27 of Walthard's 205 cases of cervical cesarean section, the temperature in the axilla was above 38 C., and 5 in this group developed puerperal fever, but smooth recovery followed in all the others, and in this group of 5 all recovered but one. His tabulated details demonstrate that the symptoms during labor indicating infection of fetal membranes—that is, a rise in temperature and pulse, chills, physometra or spastic constriction—do not contraindicate intraperitoneal cesarean section. Even retrospective study of the cases does not afford any criteria for the postoperative course in such cases. In conclusion, he advises to obtain the written consent of the husband as well as of the woman, and appeals to practitioners and others to teach their patients the prophylaxis of endogenous infection. For this he emphasizes four prophylactic measures during the last eight weeks of the pregnancy, namely, refraining from sexual intercourse, from vaginal douches, from the use of a public water closet, and from public baths and from full baths at home. The woman should take only sponge baths, and not sit or lie in the water.

Pernicious Anemia.—Alder writes from Zurich to recall that it was at Zurich in 1871 that Biermer presented the case of progressive pernicious anemia which gave rank to this disease as a morbid entity. During the fifty years since, the disease has been explained in turn as a disease of the bone marrow, an infection, a primary gastro-intestinal disease, a hemolytic process, an auto-infection, and a constitutional disease. Alder's own conclusion, from twenty-five cases minutely analyzed, is that pernicious anemia is due to the action of some poison on the entire organism. Every organ suffers from the toxic action, the bone marrow, the stomach, the suprarenals, etc., but the bone marrow feels the effect first and foremost. No treatment is of any permanent benefit except the general tonic action of arsenic. The fifty years have perfected the diagnosis but the actual cause is still a mystery although certain partial factors have been discovered.

Puerperal Infection and Insufficiency of the Liver.—Bourcart's views on the importance of defective functioning of the liver as a factor in weakening the defensive forces were recently summarized in these columns, Feb. 25, 1922, p. 619. He explains that the abdominal autonomic nervous system is dependent on the portal circulation, and is thus subject to all the chemical and physical variations in this portal circulation. He advocates manual vibratory massage of this region and of the liver, and relates that the benefit therefrom has been particularly striking in cases of puerperal fever.

Policlinico, Rome

Jan. 15, 1922, **29**, Surgical Section No. 1

*Constipation. V. Pauchet.—p. 3.
*Simplification of Inguinal Herniotomy. O. Cignozzi.—p. 13.
*Endothelial Tumors. L. Gobbi.—p. 23.
*Chronic Polycystic Parotitis. C. Romiti.—p. 45.
*Membranous Pericolitis. F. Speciale.—p. 57.

The Two Constipations. — Pauchet thus distinguishes between the constipation resulting from sluggish functioning of the lower bowel on the left side, from that resulting from defective functioning of the bowel on the right side, where the feces are more fluid and the toxins are more readily absorbed. Left untreated, chronic intestinal stasis, on the right side, reduces the earning capacity by 20 to 80 per cent. and predisposes to an early old age, to arteriosclerosis, cancer, and tuberculosis. Medical treatment includes organ extracts, massage, abdominal and respiratory exercises, reclining for an hour after meals, an abdominal support, and hygiene in eating, in addition to ingestion of oil and paraffin. If these medical measures fail, they at least have brought the patient into better condition for the operation, if this proves

indispensable. They should be continued after the operation. He advocates ingestion of liquid petrolatum as a routine practice, a teaspoonful for children and a tablespoonful for adults, agreeing with those who say that if this was a regular habit, life would be prolonged and much disease warded off. He declares that a single stool during the day is not physiologic. The savage has a stool from the postprandial reflex after each meal, but the conventions of civilization have deadened this reflex. He regards Lane's kinks and similar disturbances as merely a manifestation of general enteroptosis.

Simplified Technic for Inguinal Herniotomy.—Cignozzi gives eight illustrations of the technic he has applied in 100 cases in men and twenty in women in the last eight years, with durable results. It is so simple that the operation is complete in a few minutes and recurrence is rarer than with other methods.

Endothelial Tumors.—Gobbi reports a case of endothelioma in the penis of a 10 months infant, and compares with this sixteen cases of sarcoma of the penis on record, at various ages, and six cases of endothelioma of the penis.

Chronic Polycystic Parotitis.—The physician of 51 seemed to be otherwise in good health when the right parotid developed the polycystic condition. It was not painful, and it scarcely interfered with mastication, but the gland was removed. The cysts were evidently of sclerogenous origin, as in others of the eleven operative cases of which Romiti gives the tabulated details. The ages ranged from a few months to 67 years, and the development had always been slow and gradual.

Membranous Pericolitis.—Speciale protests against this name as in the majority of cases the membrane binding down the bowel is a congenital anomaly, not the relic of an inflammation. He urges the necessity for examining for such membranes whenever the abdomen is opened up for any cause.

Brazil-Medico, Rio de Janeiro

Jan. 21, 1922, **1**, No. 3

*Analysis of Two Brazilian Fruits. A. da Matta.—p. 33.
*Ureter-Pyelography. D. Carvalho.—p. 39.

Vitamins in Two Brazilian Fruits.—Da Matta's study of the alligator pear and of the Brazil-nut has demonstrated water soluble vitamin in both, and that both offer certain advantages for the diet in diabetes, when carbohydrates and animal protein have to be restricted. The botanical name of the alligator pear of Brazil is *Persea gratissima*, and of the Brazil-nut is *Bertholletia excelsa*. He reports experimental research with them in rats along the same lines as Osborne and Mendel's work on vitamins in fruits.

Pyelography.—Carvalho reports a case which sustains the recent assertions of the harmlessness and efficiency of sodium bromid for the contrast suspension in pyelography and roentgenoscopy of the ureter and kidney pelvis.

Semana Médica, Buenos Aires

Nov. 24, 1921, **28**, No. 47

Prevailing Conceptions on Tuberculosis. G. Araoz Alfaro.—p. 695.
Chemical-Functional Research on Phenylurethan. Sánchez.—p. 703.
*Mobilization of Pancreas and Spleen. A. Gutiérrez.—p. 704.
Technic for Deep Roentgen-Ray Therapy. C. Heuser.—p. 716.

Splenectomy.—Gutiérrez says that the technic for operating on the head of the pancreas is already well defined and efficient, but the same cannot be said of operations on the body and tail. He gives a profusely illustrated description of the operative anatomy of this latter region, and the best means of procedure for removal of both the pancreas and spleen at once, without damage of the circulation in adjoining organs, also for removal of the body of the pancreas alone, or of the tail alone. He particularly emphasizes the different points where the artery and vein are to be ligated in these various operations.

Siglo Médico, Madrid

Jan. 28, 1922, **69**, No. 3555

*Toxic Injury of Internal Ear. A. Martin Calderin.—p. 85.

Toxic Injury of Internal Ear.—Martin Calderin reviews the long history of toxic deafness, and theorizes to explain the injury of the labyrinth from drugs or other toxins. The toxicity of the drug in this line seems to be proportional to its power to dissolve lipoids. By dissolving away the lipoids, it leaves the cell exposed, and treatment, he explains, should aim to restore lipoids, with purges to divert to the intestines the toxic action away from the labyrinth. When the deafness is of years' standing, there is no hope of the internal ear's recuperating under such measures. But, in recent cases, much may be accomplished, as in a case described in a girl of 10 who developed absolute deafness, dizziness and severe pain in both sides of the head after a course of quinin treatment for severe malaria. He gave a purge, and applied cups to the mastoid, and injected lecithin and cholesterin every day, with a subcutaneous injection of pilocarpin, 2 drops of a 2 per cent. solution, on alternate days for a week. Improvement was slow, and the injections of lipoids were kept up for some time. By the fifth month the hearing was entirely normal once more.

Archiv für klinische Chirurgie, Berlin

Dec. 14, 1921, **117**, No. 3

Roentgenoscopy of Stomach During Gallstone Colic. H. Smidt.—p. 425.
Bandage for Plastic Operations on the Face. J. F. S. Esser.—p. 438.
Resection of Thorax for Old Pleural Empyema. Wildegans.—p. 444.
*Pedunculated Flaps Without Skin Pedicle. J. F. S. Esser.—p. 477.
Embolic Aneurysms. W. Boss.—p. 492.
*Mammary Cancer During Gestation and Lactation. Wolff.—p. 505.
*Indirect Transfusion of Blood. K. Schlaepfer.—p. 512.
*Intrapelvic Protrusion of Acetabulum. B. Valentin and H. Müller.—p. 523.
False Diaphragmatic Hernia. H. Loebell.—p. 546.
Diverticulitis of the Large Intestine. R. Friedmann.—p. 564.

Pedunculated Flaps for the Face.—Esser tells how he always strives to cut the flap with an artery in the pedicle. If possible, he leaves nothing but the vessels in the pedicle, while other surgeons pay little heed to the vessels, and make the pedicle broad, taking up much skin. By saving the artery and sparing the skin, healing is prompt and the disfigurement minimal, even when the pedicle is twisted. He here describes flaps containing the angular artery with its course reversed. The chief advantage of these "island" flaps, without skin in the pedicle, is that the vascular pedicle can be stretched and twisted to suit, while skin will not stand this.

Mammary Cancer and Pregnancy.—Wolff adds his testimony to that of those who have called attention to the enhanced malignancy of mammary cancer developing during a pregnancy. Metastasis was soon evident in all of his ten cases of this kind.

Indirect Transfusion of Blood.—Schlaepfer remarks that during a recent trip to America he was amazed at the extensive use made of blood transfusion. He has modified the Brown-Percy method somewhat, as he describes. The transfusion seemed to have been responsible for three recent deaths in his service (Zurich), thrombosis or shock proving fatal. These cases teach the variety of the problems which each case presents.

Intrapelvic Protrusion of the Acetabulum.—The tabulated details of thirty-one published cases of the Otto-Chrobak pelvis on a pathologic basis are compared with the findings in traumatic cases, and with three other nontraumatic cases from the writers' own experience. In one woman of 50 the protrusion of the acetabulum was due to a tumor; in the second case, to a tuberculous process in the hip joint. In the third case, the destructive process had evidently begun and run its course while the young woman was in bed for seven months during treatment of a gonococcus process in the knee, with tendency to polyarthritis.

Dec. 24, 1921, **117**, No. 4. E. Payr Festschrift

Abdominal Gunshot Wounds and Shock. O. Kleinschmidt.—p. 569.
*Plastic Induration of the Penis. Sonntag.—p. 612.
*Operative Mobilization of Stiff Joints. J. Hohlbaum.—p. 647.
*Closing Artificial Anus. E. Gehrels.—p. 705.
Research on Wound Diphtheria. L. Frankenthal.—p. 716.
*Floating Tenth Rib. H. Kästner.—p. 737.
Pathologic Hallux Valgus. A. Kortschorn.—p. 752.
Operative Treatment of Equinus Attitude of Foot Stump. Id.—p. 758.
Fracture of First Metacarpal Bone and Trapezium. G. Halter.—p. 761.
Partial Volvulus of Stomach with Ulcer. I. Boysen.—p. 768.

*Insufficiency of Ileocecal Valve. G. Hromada.—p. 784.
*Mesenteric Cysts. H. Naumann.—p. 819.
*Prevention of End-Bulbs on Severed Nerves. A. Hedri.—p. 842.

Plastic Induration of the Penis.—Sonntag has compiled about 200 cases of this kind; in over 10 per cent. there was formation of actual bone or cartilage tissue. In several cases there was Dupuytren's contracture besides. He describes a case personally observed in which he resected the fibrous band, two operations being necessary. In a second case spontaneous improvement was observed. This throws doubt on the benefit credited by some to fibrolysin injections in a few instances; other writers report negative results with it. Several writers are cited who have reported cures under roentgen or radium treatment. The most successful were Galewsky and Weiser with 6 of their 12 cases cured, 4 improved and only one not favorably influenced. Operative measures have cured in 75 per cent. Of the total 200 cases, 27 are known to have been cured; this includes 2 under fibrolysin, 8 under radiotherapy and 13 of the 22 given operative treatment. In this operative group of 22, 1 was improved; there was recurrence in 5, and in 3 the benefit was dubious. The bibliography is comprehensively reviewed.

Operative Mobilization of Stiff Joints.—Hohlbaum summarizes the details and ultimate outcome in 109 cases of ankylosis of knee or hip joint treated by operative measures. The ankylosis was traceable to rheumatism, gonorrhea, tuberculosis, trauma or osteomyelitis. In the 85 knee cases, excellent results were secured in 77.5 per cent. as also in 55 per cent. of the 20 hip-joint cases. The great danger is the rousing of a latent infection. A year is the shortest interval allowable. The temperature of the part is often a warning that the infectious process is still to be feared. The outlook for the new joint is better in persons of a sedentary occupation and those who have to kneel often at their work, such as chauffeurs, gardeners, locksmiths, etc. It is very important to hasten the neoformation of the bursa in the new joint, but whether this is hastened best by injection of saline, iodin or gelatin is still a question. The main point is to train the muscles suffering from their long inaction and the local toxins, and restore them to full functional capacity.

Operative Closure of Artificial Anus.—Gehrels tries to avoid making a long spur, when making the artificial anus, to begin with. This makes it possible for the spur to smooth out spontaneously as the loop of intestine is restored to its normal course. By freshening the posterior wall of the bowel at this point, any trace of the spur subsides in the following circular suture of the bowel. In 26 cases in which no attempt was made to crush the spur, the peritoneum did not have to be opened in 5, and the fistula healed after the single operation in all but 2 cases in which a minimal fistula required a second minor intervention. All were able to leave the hospital in two weeks, except one woman of 56 who succumbed to peritonitis; the cancer was so near the artificial anus that the loop of bowel was under too much traction.

Floating Tenth Rib as Sign of Enteroptosis.—Kästner relates that in 28 cases of movability of the tenth rib on both sides, there was extreme gastroptosis in 3, and more or less gastroptosis in 7 others, and in 4 the greater curvature sagged a little, but in 14 cases nothing could be found to suggest ptosis of any of the viscera.

Insufficiency of the Ileocecal Valve.—Hromada's experimental research and clinical experience confirm the ease and simplicity of the Kellogg-Payr method of correcting insufficiency of the ileocecal valve. It has been applied in sixteen cases in Payr's service. The disturbance was traced to a mesenteric gland in one case; to postoperative adhesions in six cases, and to relics of appendicitis in nine. The symptoms were those of chronic constipation rebellious to all measures. They subsided completely after the operation. The ileum is lifted up by four or five Lembert sutures passed through the cecum and the upper wall of the ileum. This restores normal conditions for the valve without the danger of hypercorrection, as in Kellogg's original method. Eleven illustrations accompany the article, and the importance of the physiologic closure of the valve is emphasized.

Mesenteric Cysts.—Naumann reports a case of a blood cyst in the mesentery of the transverse colon. He discusses the differential diagnosis of mesenteric cysts in general and their treatment. He warns against puncture, and insists on the necessity for operative treatment in every case.

Prevention of End-Bulbs on Severed Nerves.—Hedri cauterizes the stump of the peripheral nerve with the white-hot actual cautery. The cauterization extends high on the stump, and in nineteen cases of primary amputation and three of reamputation there have been no disturbances from the nerve since. There is no neuroma formation, no pains or other abnormal sensations in the stump. The results are thus what he expected from his experiments on animals, none of the divided and cauterized nerve stumps displaying any tendency to proliferation of the fibers to form the end-bulbs otherwise almost inevitable. Payr suggests applying this same measure to the trunk of the second and third branch of the trigeminal nerve in operative cases of trigeminal neuralgia.

Deutsche medizinische Wochenschrift, Berlin

Jan. 12, 1922, **48**, No. 2

Recent Researches on Pneumonia. F. Neufeld.—p. 51.
Tuberculous Allergy in Relation to Inflammation and Proteotherapy. H. Selter.—p. 54.
Treatment of Chronic Disorders of Circulation. Goldscheider.—p. 57. Begun in No. 1, p. 10.
Syphilitic Aortitis. A. Schittenhelm.—p. 60.
*Pathogenesis of Cyclic Respiration. H. Straub and K. Meier.—p. 61.
The Central Nervous System in Gas Gangrene in Man. E. Fraenkel and F. Wohlwill.—p. 63.
What Women Have Suffered from the War. G. Winter.—p. 64.
Deep Puncture in Diathermal Treatment of Tuberculosis of the Larynx. A. Hofvendahl.—p. 67.
Ganglion of the Nerve Sheath of the Ulnar Nerve. J. Dubs.—p. 68.
Isopropyl Alcohol for Disinfection of Hands. Bernhardt.—p. 68.
Medium for Cultivation of Streptococci from Blood. Piorkowski.—p. 69.
Displacements of Female Reproductive Organs. Liepmann.—p. 69.

Pathogenesis of Cheyne-Stokes or Cyclic Respiration.—Straub and Meier discuss the possible explanations of the interesting pathologic condition known as Cheyne-Stokes breathing. This condition has usually been referred to a reduction of irritability of the respiratory center with reference to the natural respiratory stimulus. Haldane and his assistants, however, have called attention to disturbances in the chemical regulation of the respiratory apparatus. The modern conception of the regulatory mechanism of respiration is to the effect that the respiratory center is stimulated to activity by the hydrogen-ion concentration of the fluid that laves the respiratory center. Under this influence, the respiratory center regulates the amount of ventilation of the lung so that the carbon dioxid tension of the alveolar air and thus of the arterial blood is preserved at a constant and characteristic value. The carbon dioxid content acts then as the quickly available regulator for the preservation of a uniform hydrogen-ion concentration. The carbon dioxid plays much the same part as the fly-wheel of a steam engine. Haldane and Douglas were able to show that cyclic breathing occurs in a healthy subject when the respiratory regulation is no longer determined exclusively by the carbon dioxid; when, namely, in addition to this, the shortage of oxygen begins to affect the situation quite materially. In a patient presenting cyclic respiration to a marked degree, Straub and Meier found that, in truth, the carbon dioxid tension of the alveolar air was permanently and materially reduced. When the inspirations, gradually increasing in depth, reached a maximum, the carbon dioxid tension measured 19 mm., and at the end of the apnea phase, 29 mm. The curve showing the combining function of the blood for carbon dioxid was normal in this patient. The p_H of the arterial blood, owing to the low carbon dioxid tension, was changed to abnormal basic values; it was 7.504 at the end of the period of apnea and 7.63 when the breathing was deepest. This observation shows that the respiratory disturbance was not occasioned by a deficiency of carbon dioxid in the blood, as in renal insufficiency, nor by a general disturbance of the circulation as in cardiac insufficiency. It is also opposed to the assumption of a reduced irritability of the respiratory center, and points to a lack of oxygen in the tissue fluid that laves the respiratory center.

Klinische Wochenschrift, Berlin

Jan. 15, 1922, **1**, No. 3

Fundamental Problems of Internal Secretion. Asher (Bern).—p. 105.
Pathologic Physiology of Chronic Constipation. E. Reiss.—p. 108.
*Effect of Vitamins on Digestion and Metabolism. Bickel.—p. 110.
*Ether as a Stimulus to Flow of Pancreatic Juice. G. Katsch and L. von Friedrich.—p. 112.
Roentgenoscopy from Left Side with Subcardial Ulcer. Wolff.—p. 115.
Blood Sugar Level in Children after Intravenous Infusion of Strong Solutions of Glucose. H. Opitz.—p. 117.
Ovarian Tumors Complicating Child-Bearing. E. Vey.—p. 119.
Experiences with Friedmann's Tuberculosis Remedy. Deusch.—p. 120.
Action and Ageing of Vaccines. Buschke and Langer.—p. 122.
Physicochemical Formation of Gallstones. Bolt and Heeres.—p. 124.
Animal Experiments on Spirochetes of Recurrent Fever. Henning.—p. 124.
The Chromatophores in the Skin of Man. G. Miescher.—p. 125.
A Case of Renal Diabetes. B. Uedinghoff.—p. 126.
Results of Tendon Operation in Radial Paralysis. Perthes.—p. 127.
Treatment of Early Syphilis. G. A. Rost.—p. 129.
Protection of Mothers. A. Eckstein.—p. 131.
The Constitution and Life Expectancy. Florschütz.—p. 133.

The Influence of Vitamins on Digestion and Metabolism.—Bickel has been investigating the question whether the functioning of the gastro-intestinal glands is changed by a vitamin-free diet. It has frequently been asserted in the literature that the cause of loss of weight occurring with vitamin-free feeding lies in the defective decomposition of the food in the gastro-intestinal canal, owing to the absence of sufficient digestive juices. K. Miyadera, working in Bickel's laboratory, investigated on a Pawlow fistula dog the action of the gastric glands in a vitamin-free diet and found that the diet selected, which consisted of polished rice, pure wheat albumin, 5 gm. of sodium chlorid, and occasionally a little lard, elicited practically no secretion of digestive juices in the stomach, but that, following the ingestion of a weak, watery solution of alcohol as a test diet, a vigorous gastric secretion occurred, which continued at the same level throughout the entire duration of the experiment—seventy days. From this we may conclude that the power of the gastric glands to secrete is not impaired by a vitamin-free diet, although the selected diet, deficient in vitamins, fails to stimulate a secretion. It was further shown that in spite of lack of gastric secretion the eventual decomposition of the vitamin-free food in the intestine and its absorption by the intestinal wall were not thereby disturbed. Bickel emphasizes that any attempt to explain theoretically the disturbances of metabolism that occur in connection with a diet deficient in vitamins must not lose sight of the fundamental facts here set forth.

Ether as a Stimulus to Flow of Pancreatic Juice.—Katsch and von Friedrich, having in mind Claude Bernard's observation that ether exerts an extraordinarily lively stimulus on the secretional activity of the pancreas, endeavored to make diagnostic use of the physiologic finding. There is considerable clinical interest in the diagnosis of pancreas functioning at the present time. Previous procedures for securing specimens of the duodenal fluid have been impracticable in that they consumed so much time. On the basis of their experiments with thirty patients, the writers state that the introduction of a small dose of ether (from 1 to 4 c.c.) into the duodenum resulted in a prompt (within five minutes, at the most) and copious flow of pancreatic juice. Sufficient quantities could always be aspirated for manifold diagnostic purposes. The admixture of bile was very slight. Einhorn's technic was followed in the introduction of the tube.

Monatsschrift für Geb. und Gynäkologie, Berlin

December, 1921, **56**, No. 3-4

*Pregnancy Anemia of Pernicious Type. M. Beckman.—p. 119.
Racemose Ovarian Cystic Tumor. F. Hirschenhauser.—p. 129.
Desmoid Tumors of the Ovaries. E. Mauthner.—p. 135.
*Bactericidal Action of Yeast. P. Schugt.—p. 144.
Occipital Meningocele. A. Santner.—p. 151.
Radiotherapy in Gynecology in 1920. H. Langer.—p. 160. Cont'd.
American Literature on Radiotherapy of Tumors, 1918-1921. A. Stein.—p. 178.
Recent Literature on the Menstrual-Genital Cycle. Schroeder.—p. 183.

Pregnancy Anemia of Pernicious Type.—In three of the six cases reported by Beckman, improvement was evident after delivery. In two other cases the delivery seemed to aggravate conditions, and the women soon succumbed. Interruption of the pregnancy is the only recourse when pernicious anemia develops during gestation. The fatty degeneration of the heart in these cases makes it imperative to relieve the heart of the stress of the childbirth. He adds that it may be well to give arsenic and transfusion of blood to improve conditions before attempting to evacuate the uterus.

Bactericidal Action of Yeast.—Schugt's research failed to demonstrate any bactericidal action from yeast unless fermentation was going on. Fermenting yeast has bactericidal power, but the small amounts used in therapeutics are almost negligible in this respect. The effect is felt only by those bacteria which are especially susceptible to any change in the medium containing them.

Monatsschrift für Kinderheilkunde, Berlin

October, 1921, **22**, No. 1

Bile Pigment in Icterus Neonatorum. Knoepfelmacher and Kohn.—p. 1.
*Cerebrospinal Fluid in Congenital Syphilis. O. Tezner.—p. 4.
Pemphigus Hereditarius. H. Mautner.—p. 15.
*Paroxysmal Digestive Disturbances. A. Reuss.—p. 17.
Training of a Children's Nurse. A. Reuss.—p. 22.
Primary Tuberculous Ulceration in Skin. K. Dietl.—p. 27.
Syphilitic Nephritis in Childhood. Else Kirsch-Hoffer.—p. 31.
*Alimentary Toxicosis in Infants. Bessau et al.—p. 33.
Pathogenesis of Osteomyelitis in Infants. Leichtentritt.—p. 40.
Diagnosis and Treatment of Diphtheria of the Nose in Children. F. Goppert.—p. 44.
Discrepancies Between Clinical and Anatomic Diagnosis of Rachitis. E. Schiff.—p. 46.
Abortive Measles in Early Childhood. F. Nassau.—p. 49.
Congenital Fistula of Ear and Atresia of External Meatus. Erfurth.—p. 55.

Cerebrospinal Findings in Congenital Syphilis in Children.—Tezner reports his findings in 43 children. There were absolutely positive findings in 41.8 per cent.; positive Wassermann reaction in 32.5 per cent., and lymphocytosis plus positive Wassermann in 13.9 per cent. In the 16 infants among these children there were absolutely positive findings in 62.5 per cent.; positive Wassermann reaction in 50 per cent.; positive Nonne-Apelt reaction and lymphocytosis each in 31.3 per cent.; a pronounced syphilitic exanthem in all except one infant, which presented lymphocytosis and a positive Wassermann reaction in the spinal fluid. Of the 27 older children, 20 showed no nervous symptoms, but there were absolutely positive findings in 15 per cent.; positive Nonne-Apelt in 5 per cent., and lymphocytosis in 5 per cent. In 7 of the older children who presented nervous manifestations there was a positive Wassermann reaction in the spinal fluid in 70.1 per cent. and lymphocytosis in 20 per cent. The Pandy reaction (when taken) was parallel to the Nonne-Apelt reaction. No parallelism between the other reactions could be established. The positive Wassermann reaction was more common than in adults; the reaction in the spinal fluid was often the only change discoverable. While the spinal fluid is involved in a comparatively large percentage of infants, the changes retrogress rapidly and are not associated with any permanent injuries to the central nervous system.

Familial Paroxysmal Digestive Disturbances.—A neurosis of the autonomic nervous system seems to be responsible for the paroxysmal digestive disturbances in the various members of the family described.

Gastro-Intestinal Toxicosis in Infants.—Bessau, Rosenbaum and Leichtentritt discuss their experiences with 28 cases of alimentary intoxication during the unusually hot summer of 1920. Only six infants survived, the mortality being thus 80 per cent., but these were hospital cases and only the severe cases reached the hospital. They found that when the food was properly sterilized the danger from intoxication was very slight. They concluded after investigation that the prophylactic effect of the baby feeding station is due chiefly to the thorough sterilization of the food, and that the other factors of preparation and dosage, under a physician's control, are secondary. What they particularly noted was that only exceptionally did the beginning of the diarrhea and the first manifestations of intoxication coincide in point of time. In most cases, the intoxication followed the diarrhea instead of preceding it; sometimes betraying itself on the

same day as the diarrhea, but usually later. In fact, they were much astonished to note how long the diarrhea often existed before signs of intoxication proper appeared. From this fact they are inclined to accept the pathogenetic conclusion that the primary disturbance in alimentary toxicosis is the diarrhea, that the primary causa peccans is the agent that produces the diarrhea and not the toxicosis or intoxication. The intoxication is the result of the grave disturbances caused by the diarrhea, they assert.

Münchener medizinische Wochenschrift, Munich

Jan. 6, 1922, **69**, No. 1

Pathologic Anatomy in Relation to the Nomenclature of Pulmonary Tuberculosis. F. Marchand.—p. 1. Conc'n No. 2, p. 55.
Anemia from Use of Goat's Milk. W. Stoeltzner.—p. 4.
Renal Glycosuria as Sign of Pregnancy. Seitz and Jess.—p. 6.
Influence of Medium on Agglutinability of Typhoid Bacillus. Hohn.—p. 7.
Paralysis of Capillaries of Intestine in Influenza. F. Limper.—p. 12.
Chronic Appendicitis in Childhood. Lunckenbein.—p. 12.
Permanent Cure of Operated Mammary Cancer with and Without Prophylactic Roentgen Irradiation. F. von den Hütten.—p. 13.
The Colloidal Nature of Mercury in Intravenous Injections of Mixtures of Neoarsphenamin and Mercury Salts. C. Tollens.—p. 15.
Artificial Production of Acute, General Anhidrosis or Oligidria by Formaldehyd. R. Griesbach.—p. 16.
Basis of the Functional Adaptation of Muscles in Sport Activities. Deppe.—p. 16.
Treatment of Oxyuriasis. F. Franke.—p. 17.
Lymphatic Leukemia Manifested as Symmetrical Swelling of Parotid Glands. H. Langsch.—p. 18.
Remarks on Rachitis. F. Schede.—p. 18.
Treatment of Gastric Ulcer. F. Müller.—p. 20.

Therapeutische Halbmonatshefte, Berlin

Oct. 1, 1921, **35**, No. 19

The Physiologic and Pharmacologic Bases of Calcium Therapy. E. Starkenstein.—p. 585. Conc'n.
*Treatment of Erysipelas with Roentgen Rays. R. Schrader.—p. 600.

Treatment of Erysipelas with Roentgen Rays.—Schrader recalls that Hesse (in 1918) was the first to report the use of roentgen rays to combat erysipelas. The results were for the most part favorable. Schrader reports his results in seven cases, which were uniformly good. The healing of the lesions was expedited and the fever was favorably affected. A progression of the inflammatory process in the irradiated area was not observed in a single case. Complications (inflammation of the kidney) occurred in only one instance in which irradiation could not be begun until several days after the eruption of the erysipelas. The dosage should not ordinarily exceed one sixth of an erythema dose, and in no case should more than one fourth of an erythema dose be given. If the erysipelas covers so large an area that it cannot be treated all at once, the "head" of the erysipelas and a portion of the adjacent healthy tissue should be irradiated to prevent further progress of the infection. In all such cases irradiation applied to the head of the erysipelas sufficed to cause the inflammation to retrogress promptly in the area that was not irradiated. The day following the irradiation the reddening became less marked and the swelling died down.

Wiener klinische Wochenschrift, Vienna

Dec. 22, 1921, **34**, No. 51

*Experimental Production of Tar Carcinoma. B. Lipschütz.—p. 613.
*Increase of Globulins in Spinal Fluid. H. Baar.—p. 614.
Anatomy and Histology of the Female Urethra. O. Sachs.—p. 615.
Perineural Injections of Antipyrin in Sciatica. Högler.—p. 617.

Experimental Production of Tar Carcinoma.—Lipschütz reports that his efforts to produce carcinoma in mice by means of external applications of coal tar yielded positive, tangible results in about 45 per cent. of the trials. At least inflammations of the skin were observed frequently; necrosis, however, was not noted in a single instance. The clinical process showed a regular course of development in the skin of the animals. As to the time that elapsed before the first skin changes became evident, he states that one animal showed the first distinct macroscopic changes in 88 days, two in 112, two in 120 and one in 125 days. The first manifestations were grayish white nodules, not quite as big as a pinhead, rising above the surface of the skin. These continue to grow and to assume more and more distinct forms. The nodules appear as wartlike formations or they resemble papillomas with broad bases and a distinct pedicle. Their surfaces are rough and warty or fissured, presenting elevations that remind one of gloved fingers. This condition may persist for many weeks. In two instances, subcutaneous transplantations of these wartlike nodules to healthy mice resulted in the development after nineteen days of characteristic skin changes presenting a wartlike appearance, although the transplanted tissue itself was completely absorbed. In three instances (in 17, 42 and 45 days, respectively, after the appearance of the first nodule) a generalization occurred, up to seven distinct nodules in one instance, either at some distance from the primary skin changes or in the same immediate region, in which case there was a marked similarity to the clinical behavior of mother and daughter warts in man. In one mouse, sixty days after receiving a transplant from a wartlike skin change, a tumor as large as a good-sized cherry developed. The tumor presented a reddish color, a smooth, shiny and taut surface and permeated the whole thickness of the skin. When incised it proved to be of the same coarse-fibered structure throughout, pointing rather to a sarcoma.

Diagnostic Significance of Increase of Globulins in the Cerebrospinal Fluid in Affections of Childhood.—Baar made examinations in a number of organic and functional affections of the nervous system in childhood with respect to the behavior of globulins in the cerebrospinal fluid. He found an increase of the globulin content in many different cases. In uremic and eclamptic attacks, and especially in repeated spasmophilic convulsions, the globulin content of the cerebrospinal fluid attains the same degree as in tuberculous meningitis. In convulsions due to disturbances of functioning, the globulin content of the spinal fluid is greatest during the convulsive stage and drops after the convulsions cease, whereas in the case of tuberculous meningitis the globulin content increases from the beginning of the irritation stage until the fatal outcome. In a number of organic affections of the central nervous system which are of moment in the differential diagnosis of tuberculous meningitis, there was just as marked an increase in the globulin content as in the latter disease. However, the Pándy reaction, if conservatively interpreted, will render valuable service in differentiating tuberculous meningitis from clinically similar functional affections; particularly, a negative reaction is of importance. For the differential diagnosis as against organic diseases presenting a similar clinical picture to tuberculous meningitis, the value of the phenol reaction is only limited, and, in case of a positive reaction, only the continuous increase of the intensity of the reaction is significant.

Zentralblatt für Chirurgie, Leipzig

Nov. 26, 1921, **48**, No. 47

Hemostasis in Vessels Difficult of Access. J. Volkmann.—p. 1710.
*Removal of Stomach Contents Before Operation for Perforating Ulcer. R. Gandusio and G. Pototschnig.—p. 1712.
Murphy Button Twenty Years in Stomach. Kelling.—p. 1714.
Contrast Mediums for Pyelography. A. von Lichtenberg.—p. 1716.
*A Refractory Bladder Wall Defect. F. Linde.—p. 1719.
Primary Suture after Cholecystectomy. J. Vorschütz.—p. 1721.
Preparation of Procain Solutions. K. Propping.—p. 1723.

Removal of Stomach Contents Before Operation for Perforating Ulcer.—Gandusio and Pototschnig say that during the six months just past they have always removed the stomach contents before proceeding with an operation for perforating ulcer, and that no harm has ever resulted; in fact, they are inclined to ascribe the good results and the uneventful postoperative course in these cases in part to this maneuver. It aids the operator and is of undoubted advantage to the patient.

Two Auxiliary Measures that Proved Helpful in the Operative Closure of Extensive Bladder Wall Defects.—Linde reports the case of a woman who in a traffic accident suffered a fracture of the pelvis, complicated by a laceration of the anterior vaginal wall and the bladder. Seven attempts to close the defect of the bladder had proved futile, a pedunculated flap having been used in one instance. Over two years after the accident Linde made a renewed attempt to close the defect. In order to effect a thorough irrigation

of the bladder he introduced two catheters, one through the operative wound and one through a puncture incision immediately in front of the anterior lip of the os uteri. To take the weight off the suture, the uterus was drawn forward with forceps so that the vaginal portion of the cervix reached the vulva. The posterior vaginal fornix was stuffed out with gauze tampons, which took still further weight off the bladder suture, since the cervix was pushed toward the pubic symphysis. Under copious irrigation of the bladder the defect healed partly (50 per cent.). The contractions of the bladder occurring in the earlier operations immediately after the closure of the bladder did not take place at first, although they came on later (but were not so marked), immediately after which half of the suture broke open again. Two months after the last operation he closed the balance of the fistula. The suture was again favored by drawing forward the uterus. Prolonged irrigation of the bladder by the Martin method was instituted and the defect healed without further mishap. Two years afterward the patient was reexamined. She could hold the urine two hours. There were signs of a slight chronic inflammation of the bladder but the urine appeared clear. Linde thinks that his final success was due to the fact that the uterus was drawn forward (thus taking the strain off the suture), together with the prolonged continuous irrigation of the bladder.

Zentralblatt für Gynäkologie, Leipzig

Nov. 26, 1921, **45**, No. 47

Present Condition of Twenty-Four Tuberculous Women Who Refused an Interruption of Pregnancy. G. Hamburger.—p. 1686.
Tetanus Following Abortion. P. Esau.—p. 1695.
Time and Causal Relations Between Parturition, Ovulation and Menstruation. J. Novak.—p. 1697.
The Method of Choice for Cesarean Section. F. Heimann.—p. 1700.
Extremely Large Lutein Cysts. M. Trancu-Rainer.—p. 1702.
Training Students to Use Rubber Gloves. H. Kritzler.—p. 1703.

Nederlandsch Tijdschrift v. Geneeskunde, Amsterdam

Dec. 10, 1921, **2**, No. 24

*Ulcerative Colitis. J. T. Leusden.—p. 2890.
*Test for Surface Tension. R. Brinkman and E. v. Dam.—p. 2905.
Dysentery in Flanders. D. J. H. Pol.—p. 2909.
Compression of Thorax by Elevator. J. van Woerden.—p. 2911.
*Acute Ascending Paralysis. N. A. Scheers.—p. 2913.
*Case of Melena Neonatorum. J. A. K. Swormink.—p. 2915.
Compulsory Pasteurization of Milk. A. C. van Bruggen.—p. 2936.

Ulcerative Colitis.—Leusden remarks that the war experiences have revealed that the puzzling cases known of old as chronic suppurative colitis are in reality manifestations of or relics of Flexner dysentery. The data presented form a series of convincing arguments to encourage autogenous vaccine treatment in chronic colitis. The serum agglutinates dysentery bacilli at a high dilution, but the chronic suppuration is not the work of the dysentery bacilli but of colon bacilli invading the lesions left by the dysentery. The serum and the serum of those with repeated attacks of catarrhal enteritis agglutinate their own colon bacilli at a very high dilution, but none from other patients.

Gage for Surface Tension of Small Amounts of Fluid.—Brinkman and Van Dam recall that capillary tubes cannot be used to determine the surface tension of biologic fluids as it is impossible to keep them clean enough. A simple and reliable method is described which answers for even minute amounts of fluid, and requires only the ordinary Hartmann-Braun torsion balance and a flat platinum ring which is suspended horizontally from the hook of the torsion balance. The fluid to be examined is placed in a watch glass, and this is screwed up to the required height to allow the ring to come in contact with the surface of the fluid. The amount of force then required to free the ring (K) is recorded by the torsion balance, and the weight of the ring, plus the fluid adhering to it (G), is also recorded. By subtracting G from K and dividing by the circumference of the adhesion area, we get the surface tension. The test can be applied with as little as 0.5 or 1 c.c. or less, and can be used even with colloidal solutions, and the whole is complete in thirty seconds.

Acute Ascending Paralysis.—The previously healthy young man suddenly developed intense pain in the back and slight fever, with exaggeration of the reflexes. Acute ascending paralysis followed, with death the second day. There was nothing to indicate polyneuritis. The mother developed soon after pyelitis with cystitis, further testimony to the infectious character of Landry's paralysis.

Melena Neonatorum.—The infant was 16 days old when the melena appeared, with profuse losses of blood in stools and vomit. Swormink injected subcutaneously 10 c.c. of a gelatine solution and 10 c.c. of diphtheria antitoxin, and the hemorrhagic tendency was arrested at once.

Dec. 17, 1921, **2**, No. 25

Mutation of Bacteria and Heredity. J. J. van Loghem.—p. 2981.
*Outcome of Modern Treatment of Syphilis. G. C. van den Heuvel.—p. 2988.
*Influence of Sexual Functioning on Cancer. P. W. L. Penris.—p. 2995.
Roentgen-Ray Treatment of Trichophytosis. E. Penso.—p. 3002.

Results of Modern Treatment of Syphilis.—Van den Heuvel compares the outcome in regard to the Wassermann reaction in 577 cases of syphilis. It veered to negative in only 52.1 per cent. under mercury alone, and this not until after from one to twenty-two years. With mercury first and then arsphenamin, the corresponding figures were 60 per cent., and the interval before the reaction became negative was never less than one year, and in the majority from the fourth to the thirteenth and up to the twenty-second year. With the combined arsphenamin and mercury treatment, the reaction became negative in 9 cases in from two to nine months; in 32 within a year; in 29 within two years, and never later than the sixth year. Tertiary manifestations or tabes or paresis developed in 4 per cent. of the 184 given mercury alone; in 5 per cent. of the 190 given first mercury and, later, arsphenamin, and in 0.5 per cent. of the 203 given the combined treatment. In this last mentioned group iritis developed during treatment in 2 cases; chorioretinitis in 2, and retinitis in one. The average for the whole material before the Wassermann reaction became negative was eight years, eight and a half years, and over two and a half years for the three groups. These figures, he adds, show the superiority of the combined treatment over other methods but they likewise show that, even at the best, treatment is still far from perfect.

Influence of Gestation on Incidence of Cancer.—Penris compares various statistics from different countries, and claims that no dependable evidence has been presented yet which settles the question as to whether child-bearing and lactation predispose to cancer or not.

Hospitalstidende, Copenhagen

Jan. 4, 1922, **65**, No. 1

*Right Sciatica; Left Brachialgia. V. Christiansen.—p. 1.
Present Status of Phototherapy and Heliotherapy in Pulmonary Tuberculosis. C. Holten.—p. 12. Conc'n No. 3.

Rheumatic Sciatica.—Christiansen says that among the 5,135 patients at the neurologic policlinic at Copenhagen in the last seven years, only 6 per thousand had sciatica. During this period, disseminated sclerosis was encountered in 2.5 per cent. of the total. The attack of sciatica is nearly always preceded by one or more attacks of lumbago, just as neuralgia from neuritis in the brachial plexus is nearly always preceded by one or more attacks of torticollis. It is difficult to show the connection between the lumbago and the sciatica, but the connection between the wry-neck and the plexus neuritis is easy to trace as the tender trapezius muscle is readily accessible to palpation. In both cases the disturbance is primarily in the muscle. This may occur again and again with no other manifestations than the lumbago or the stiff neck. But the process spreads to involve the fascia and the connective tissue, and finally invades the plexus, the lumbosacral or the brachial plexus. With neuritis of the brachial plexus, the first thing is to exclude cervical ribs.

Jan. 11, 1922, **65**, No. 2

*Heredity in Dementia Praecox. S. Hansen.—p. 17.

Heredity in Dementia Praecox.—Hansen relates that the committee officially appointed for anthropologic research in Denmark is now busily compiling data throughout the country in regard to all the insane, the feebleminded, the deafmutes, and other similarly abnormal persons, and their family his-

tory. In Sweden the government has recently appropriated a certain regular annual sum for research in this line, three times larger than the sum the Danish committee has to work with, but already an extensive material has been compiled.

Feb. 8, 1922, **65**, No. 6

*Cultivation of Typhoid Bacilli. S. V. Bagger.—p. 81. Conc'n. Method for Isolating Single Bacterial Strain. J. Orskov.—p. 86.

Capillary Cultures of Typhoid Bacilli.—Bagger comments favorably on the ease, simplicity and reliability of what he calls the capillary method for differential cultivation of bacteria from the stools. After the stool has been well mixed with saline and kept for an hour at room temperature, it is poured into a conical glass or beaker and a strip of filter paper, 12 cm. long by 1 cm. wide is hung in the glass, the end of the paper 1 cm. below the surface of the fluid, without touching the side of the glass. After half an hour of this, the paper is pressed on a Conradi plate, and set in the thermostat till the next day. He has applied this method to 800 specimens. It is particularly useful when proteus bacilli are unusually numerous, as they crowd out others on the plates with the ordinary technic. The typhoid and paratyphoid bacilli seem to climb rapidly up into the strip of paper, the colon bacilli following behind. With a dilution of even 1:40,000, he found ten or twelve isolated colonies of typhoid bacilli above the zone of colon bacilli.

Hygiea, Stockholm

Dec. 31, 1921, **83**, No. 24

*Kidney and Bladder Calculi in Children. S. Johansson.—p. 833.
*Treatment of Hemoptysis in Pulmonary Tuberculosis. L. Ehrenberg. —p. 844.
*Bacteria in the Blood in Typhoid. N. Svartz.—p. 852.

Urinary Calculi in Children.—Johansson had no difficulty in recognizing the calculus in the left ureter and the calculus in the right kidney of the boy of 11. He cut down on the ureter, well above the calculus, and removed it without difficulty. The calculus in the right kidney was removed two months later. It had grown in size in the interim. Both were calcium oxalate and calcium phosphate concretions, as also in a second case, and prompt recovery followed their removal. In the second case the calculus was in the bladder, and required the high incision to remove it. The symptoms from a calculus in a child and the treatment of the calculus are about the same as in an adult. There is not always actual pain. The difficulty is to think of the possibility of a calculus in a child. This is the last thing to occur to mind, as it is so extremely rare in children, as Johansson shows by statistics from different countries.

Acute Hemoptysis.—Ehrenberg explains that the supposed advantage from giving a narcotic with hemoptysis from pulmonary tuberculosis is a deceptive advantage; in reality it does harm, by reducing the capacity to cough up the blood. In his extensive experience the hemoptysis was never preceded by any special coughing. The hemorrhage always came like a bolt from a clear sky, and narcotics are directly contraindicated. He regards the plan of throwing a ligature around the extremities as a safe and simple measure, and advises it with every hemoptysis that does not stop spontaneously at once. The best constricting band for the purpose in the home is a long stocking, and these are always available everywhere. The aim is to constrict only enough to induce venous hyperemia. The first thing is to give salt by the mouth or, in the hospital, 2 gm. sodium bromid. If the bleeding continues, tie a band around the root of each limb, and leave these bands on for twenty or thirty minutes after the main coughing up of blood is past. The arterial pulse in the limbs must be supervised, and the ligatures should be only gradually removed, and only one limb at a time. If the hemorrhage seems to come from rupture of a large vessel, infuse 7 c.c. of a 10 per cent. solution of calcium chlorid by the vein, and the following days give 1 gm. of sodium bromid three or four times a day.

Blood Cultures in Typhoid.—Svartz obtained positive results in 100 per cent. of 12 cases in the first week of typhoid, and in 75 per cent. of 22 in the second week. The blood was drawn into beef gall, and the next day transferred to an agar tube. Schmitz reported only 38 per cent. positive findings in 45 cases in the first week, and much less in later weeks in the epidemic of 445 cases at Jena in 1915.

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*Nitrogenous Waste in the Blood. H. F. Høst and Hatlehol.—p. 1.
*Death After Cauterizing Pleural Adhesions. W. Holmboe.—p. 16.
Hypernephroma; Two Cases. A. Looft.—p. 19.
*Neurosyphilis. V. Magnus.—p. 23.
Leptothrix in Blood in Case of Endocarditis. O. Jervell.—p. 36.
*Tuberculous Spinal Meningitis. F. Harbitz and R. Hatlehol.—p. 47.
Solitary Tubercle in Spinal Cord. F. Harbitz.—p. 53.

Nitrogenous Waste in the Blood.—Høst and Hatlehol tabulate the findings in 34 cases in respect to the products of nitrogen metabolism and their concentration in the blood in both physiologic and pathologic conditions; 4 with uremia were under prolonged study for weeks or months till death. The proportion of creatinin increased regularly as the condition grew worse. This was the most constant of all the findings. The alkali reserve was reduced in all of these 4 cases, but in one case, by giving sodium bicarbonate, it was restored to normal although the patient was dying and died of uremia. This is mentioned as showing that acidosis cannot be of any essential import in the etiology of uremia. In the 8 diabetics, the nitrogen waste findings were about the same as in the healthy, except that the creatinin figure was rather high, and in one the uric acid reached 5.8 per cent. In 3 cases of nephrosis and 3 of nephrosclerosis, the nitrogenous waste findings were like those in the healthy. In 6 patients convalescing from nephritis, the findings were normal, as also in a case of chronic nephritis so far as the uric acid and creatinin were concerned, while the urea and nonprotein nitrogen were much increased.

Death After Burning Out Pleural Adhesions.—Holmboe relates that a man of 39 had been treated with artificial pneumothorax for three years, with full earning capacity and no symptoms. Then it was discontinued, but symptoms returned, and the attempt to renew the artificial pneumothorax showed that adhesions had developed in the upper pleura, and a small cavity could be seen with the roentgen rays. The man was syphilitic, and both liver and kidneys were diseased. He pleaded to have the adhesions broken up, and Jacobæus' technic was applied, but the adhesions were so compact that after two hours' working with the platinum burner, in what seemed to be nothing but connective tissue, the attempt was abandoned. No harm seemed to have been done, but a few days later sudden pain, chill and a coughing paroxysm with following emphysema, empyema and death in a few days confirmed that the cauterization had weakened the wall of the cavity, and it had ruptured into the pleura. Jacobæus has had no mishaps of the kind in his 100 cases.

Neurosyphilis.—Magnus quotes American writers on the prevalence of neurosyphilis, and says that his own experience with 232 cases in private practice is that 20 per cent. of syphilitics have some form of neurosyphilis. In his 232 cases, 96 had had no treatment before, and only 10 had been treated with arsphenamin in the first stage of the infection. His analysis of these experiences confirms the necessity for systematic examination of the spinal fluid as the only means to ward off grave neurosyphilis. As this requires laboratory skill, he urges that the state should provide this, like the State Serum Institute in Denmark. When general paresis has once developed, it is useless to keep on with specific treatment. With tabes, all we can accomplish with arsphenamin is possibly to influence the lancinating pains. He comments on the way in which the Wassermann reaction has shown the hitherto unsuspected prevalence of syphilis everywhere.

Tuberculous Spinal Meningitis.—The young woman had been supposedly healthy until after two weeks of headache, and pain in the loins, the legs became paralyzed and other symptoms suggested poliomyelitis, with death in coma in less than a month from the first symptoms. The lumbar puncture findings had suggested tuberculous meningitis, and necropsy revealed tuberculous meningomyelitis, leukomyelitis and poliomyelitis.